



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



3 2044 030 211 29

HARVARD UNIVERSITY



**LIBRARY OF THE
GRADUATE SCHOOL
OF EDUCATION**

R10.3

L111

A6

1916

No. 30-37

HARVARD UNIVERSITY
GRADUATE SCHOOL OF EDUCATION
LIBRARY

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 30

UNIVERSITY TRAINING FOR PUBLIC SERVICE

A REPORT OF THE MEETING OF THE
ASSOCIATION OF URBAN UNIVER-
SITIES, NOVEMBER 15-17, 1915



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

**ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
15 CENTS PER COPY**

CONTENTS.

	Page.
Introduction	5
I. The general relation of the university to the city	11
Welcome— <i>Frederick S. Spiegel</i>	11
Response— <i>Charles P. Norton</i>	12
Response— <i>Robert A. Falconer</i>	15
II. Needs for cooperation	19
Can business methods be applied to the conduct of municipal affairs?— <i>George F. Willett</i>	19
The demand for training for public service— <i>George R. Wallace</i>	28
A search for the maximum capacity for service— <i>Hollis Godfrey</i>	32
Cooperation with business organizations— <i>John W. Fahey</i>	38
The need for further investigation of the problems of training for public service— <i>Leon C. Marshall</i>	39
III. Methods of training for public service	42
Methods of training for public service— <i>Charles A. Beard</i>	42
Some phases of field work— <i>Parke R. Kolbe</i>	47
IV. Results of cooperative training for public service	51
Results of cooperation by the municipality and the university in training for public service— <i>Lemuel H. Murlin</i>	51
Cooperation between the business men of New Orleans and the college of commerce and business administration of the Tulane University of Louisiana— <i>Morton A. Aldrich</i>	56
Reed College and its community— <i>William T. Foster</i>	58
Results of cooperative training for public service at the College of the City of New York— <i>Sidney E. Mezes</i>	62
Cooperative training for public service in New York City— <i>Henry Maskowitz</i>	66
V. Supplementary reports of typical urban universities	70
Municipal university of Akron— <i>Parke R. Kolbe</i>	70
Brown University, Providence, R. I.— <i>James Z. Dealey</i>	71
University of Denver, Denver, Colo.— <i>George A. Warfield</i>	73
The University of Minnesota— <i>Jeremiah S. Young</i>	74
Syracuse University, Syracuse, N. Y.— <i>Ross Jewell</i>	78
Western Reserve University	78
Bibliography, with special reference to the problems, field work, and com- munity duties of urban universities— <i>Harry A. Rider</i>	81

UNIVERSITY TRAINING FOR PUBLIC SERVICE.

INTRODUCTION.

The Association of Urban Universities, organized in Washington, D. C., November 9-10, 1914, held its second conference in Cincinnati, November 15-17, 1915. At the first meeting the discussions embraced broad questions, such as: The need for universities maintained as parts of the systems of public education in cities; the functions of such institutions, and the forms of service to the cities which they and the privately endowed universities of urban location should undertake. The proceedings were printed in Bulletin, 1915, No. 38, of the Bureau of Education. The second conference was given over primarily to a consideration of training for public service.

The program had three subdivisions: The need for cooperation between the university and the city governments in providing training for public service, methods of training, and the results of cooperative training. As an introduction to the *abridged forms* of some of the papers read at the conference and printed in this bulletin, it may be well to indicate, in a related and organized way, the most important conclusions which were brought out in various parts of different addresses and discussions.

I. While the general function of all institutions of higher learning is to give a rounded training for the cultivation of broad information and lofty character, those situated in cities should especially emphasize the duties of citizenship and the need for responsible and efficient government. Furthermore, they should offer special work to train for the duties peculiar to urban activities in the arts, sciences, and industries.

II. Courses of training for public service should be organized for two purposes, at least:

(a) To develop leading citizens who will understand the machinery of governmental business and support movements for city betterment.

(b) To train experts to enter city service.

III. Though the effective demand by city officials for such trained experts is now much below the obvious need, and though the degree of encouragement from most civil-service commissions and appoint-

ing officers now leaves much to be desired, conditions are improving; and, furthermore, the training has educational value, if it does not lead immediately to an official position.

IV. The training should be concrete and replete with field work in bureaus and departments of the city. Methods similar to those used in cooperative engineering, pedagogical, medical, and other professional courses should be employed.

V. Various ways of organizing, conducting, and crediting this field work have been devised and are now in operation, but the whole technique is in need of standardization.

VI. It was resolved that the work of the year for the association would be to make a thorough study of field work. A committee was appointed to do this, and its report will be the basis of much of the discussion at the next meeting. Committee: Chairman, President Parke R. Kolbe, of the Municipal University of Akron; President William T. Foster, of Reed College; Prof. Augustus R. Hatton, of Western Reserve University; President Charles William Dabney, of the University of Cincinnati; President Godfrey, of Drexel Institute; Dean Otis W. Caldwell, of the University of Chicago; Dean Everett W. Lord, of Boston University; Prof. James Q. Dealey, of Brown University; Prof. Philip A. Parsons, of Syracuse University.

Officers were elected as follows:

President.—Sidney Edward Mezes, LL. D., president of the College of the City of New York, for a term of one year.

Vice president.—Augustus R. Hatton, Ph. D., professor of political science, Western Reserve University, for a term of two years.

Secretary-treasurer.—Frederick B. Robinson, Ph. D., director of the evening session and municipal courses, College of the City of New York, for a term of three years.

The growing interest in the work of the Association of Urban Universities is indicated by the increase in membership and by the notable gathering of educators at the conference. Membership is by institution. The first 16 following are charter members, and the rest joined at the second conference: Boston University; The College of the City of New York; Hunter College of the City of New York; Johns Hopkins University, Baltimore, Md.; Municipal University of Akron, Akron, Ohio; New York University; Northwestern University, Evanston, Ill.; Reed College, Portland, Oreg.; Temple University, Philadelphia, Pa.; Toledo University; University of Buffalo; University of Cincinnati; University of Louisville; University of Pennsylvania, Philadelphia, Pa.; University of Pittsburgh; Washington University, St. Louis, Mo.; Brown University, Providence, R. I.; Case School of Applied Sciences, Cleveland, Ohio; Clark University, Worcester, Mass.; Drexel Institute, Philadelphia, Pa.; University of Tennessee, Knoxville, Tenn.; University

of Toronto, Canada; University of Vermont, Burlington, Vt.; University of Washington, Seattle, Wash.; University College of the University of Chicago; University of Denver; University of Rochester; Syracuse University; Vanderbilt University, Nashville, Tenn.; Western Reserve University, Cleveland, Ohio; Ohio State University, Columbus, Ohio; Harvard University, Cambridge, Mass.; University of Minnesota, Minneapolis, Minn.

The following educators were present at the conference:

Morton A. Aldrich, dean of the College of Commerce, Tulane University; representing also the New Orleans Association of Commerce, New Orleans, La.

William H. Allen, Plandome, New York.

W. M. Anderson, professor of physics, University of Louisville, Louisville, Ky.

Charles A. Andrews, Manufacturers' Equipment Co., Waban, Mass.

S. W. Atkin, National Cash Register Co., Dayton, Ohio.

Frederick E. Ayer, dean of the College of Engineering, Municipal University of Akron, Akron, Ohio.

Brown Ayres, president of the University of Tennessee, Knoxville, Tenn.

Will P. Blair, secretary of National Paving Brick Manufacturers' Association, Cleveland, Ohio.

Leonard Blakey, Carnegie Institute of Technology, Pittsburgh, Pa.

Edgar E. Brandon, dean of the College of Liberal Arts, Miami University, Oxford, Ohio.

E. S. Brandt, promotion secretary, Northwestern University, Evanston, Ill.

E. J. Brown, superintendent of Dayton public schools, Dayton, Ohio.

Edward L. Burchard, secretary of the Civic Extension Commission, Chicago, Ill.

Allen T. Burns, director of the Cleveland Foundation, Cleveland, Ohio.

Otis W. Caldwell, dean of University College, University of Chicago, Chicago, Ill.

C. E. Chadsey, superintendent of public schools, Detroit, Mich.

A. E. Claggett, principal of Parker High School, Dayton, Ohio.

Walter E. Clark, professor of political science, the College of the City of New York.

Robert T. Crane, professor of political science, University of Michigan, Ann Arbor, Mich.

Allan R. Cullimore, dean of the College of Industrial Science, Toledo University; also representing Society for the Promotion of Engineering Education, Toledo, Ohio.

Charles William Dabney, president of the University of Cincinnati.

Dwight T. Davis, City Plan Commission, St. Louis, Mo.

J. Q. Dealey, professor of social and political science, Brown University, Providence, R. I.

W. E. Dorland, Chamber of Commerce of the United States of America, New York City.

Rev. Arthur Dumper, Dayton, Ohio.

G. W. Dyer, professor of economics, Vanderbilt University, Nashville, Tenn.

John W. Fahey, president of Chamber of Commerce of the United States of America, Boston, Mass.

Robert A. Falconer, president of the University of Toronto, Canada.

A. N. Farmer, National Cash Register Co., Dayton, Ohio.

Charles E. Ferris, dean of the College of Engineering, University of Tennessee, Knoxville, Tenn.

- Edward A. Fitzpatrick, Society for the Promotion of Training for Public Service, Madison, Wis.
- John S. Fletcher, associate professor of political science, University of Chattanooga, Chattanooga, Tenn.
- George W. Forbes, professor of philosophy, University of Rochester, N. Y.
- A. Y. Ford, president of the board of trustees, University of Louisville, Louisville, Ky.
- William T. Foster, president of Reed College, Portland, Oreg.
- Hollis Godfrey, president of Drexel Institute; also representing the city of Philadelphia, Philadelphia, Pa.
- F. H. Hankins, department of economics and sociology, Clark University; also representing Clark College, Worcester, Mass.
- J. M. Hanson, Charity Organization Society, Youngstown, Ohio.
- Mrs. L. G. Hartman, registrar of the University of Cincinnati; representing also the National Association of Registrars.
- Augustus R. Hatton, professor of political science, Western Reserve University, Cleveland, Ohio.
- C. R. Hebble, National Society for the Promotion of Industrial Education, Cincinnati, Ohio.
- C. N. Hitchcock, Akron Bureau of Municipal Research, Akron, Ohio.
- George W. Hoke, professor of geography, Miami University, Oxford, Ohio.
- Charles S. Howe, president of the Case School of Applied Science, Cleveland, Ohio.
- Sydney D. M. Hudson, New York School of Philanthropy, New York City.
- Lauder W. Jones, professor of chemistry, University of Cincinnati; representing also Williams College; Cincinnati, Ohio.
- Clyde L. King, assistant professor of political science, University of Pennsylvania; also representing city of Philadelphia, Pa.
- Thomas J. Knight, Louisville People's Forum and Louisville Commercial Club, Louisville, Ky.
- Parke R. Kolbe, president of the Municipal University of Akron, Ohio.
- Daniel Laurence, secretary of the University of Cincinnati; representing also the Association of Business Officers of Universities.
- John H. Leets, dean of the School of Applied Science, Carnegie Institute of Technology, Pittsburgh, Pa.
- S. B. Linhart, secretary of the University of Pittsburgh, Pittsburgh, Pa.
- Milton E. Loomis, registrar of New York University, New York City.
- Everett W. Lord, dean of the College of Business Administration, Boston University, Boston, Mass.
- S. Gale Lowrie, professor of political science, University of Cincinnati.
- Arch N. Mandel, Dayton Bureau of Municipal Research, Dayton, Ohio.
- Leon C. Marshall, dean of the College of Commerce, University of Chicago, Chicago, Ill.
- Walter Matscheck, Wisconsin Efficiency Bureau, Madison, Wis.
- Sidney E. Mezes, president of the College of the City of New York.
- W. E. Morrow, Louisville Board of Trade, Louisville, Ky.
- Henry Moskowitz, president of the New York Civil Service Commission, New York.
- Edwin L. Miller, Detroit, Mich.
- L. H. Murlin, president of Boston University, Boston, Mass.
- Charles P. Norton, chancellor of the University of Buffalo, Buffalo, N. Y.
- O. E. Olin, professor of economics, Municipal University of Akron, Ohio.
- Frances Parrott, Dayton, Ohio.

- John L. Patterson**, dean of the College of Liberal Arts, University of Louisville; also representing the Association of Colleges and Secondary Schools of the Southern States; Louisville, Ky.
- J. J. Pettijohn**, director of extension division, Indiana University, Bloomington, Ind.
- L. C. M. Reed**, Chamber of Commerce of the United States of America, Washington, D. C.
- C. E. Rightor**, director of the Dayton Bureau of Municipal Research, Dayton, Ohio.
- Frederick B. Robinson**, director of the evening session, College of the City of New York, New York City.
- Frederick W. Roman**, professor of economics, University of Syracuse; also representing the city of Syracuse, N. Y.
- James Hardy Ropes**, Hollis professor of divinity, Dexter lecturer on Biblical literature, and dean in charge of university extension, Harvard University, Cambridge, Mass.
- Herman Schneider**, dean of the College of Engineering, University of Cincinnati, Cincinnati, Ohio.
- J. A. Shawan**, superintendent of the Columbus public schools; representing also the National Council of Education; Columbus, Ohio.
- A. I. Spanton**, professor of English, Municipal University of Akron, Ohio.
- Henry Russell Spencer**, professor of political science, Ohio State University, Columbus, Ohio.
- Arthur E. Swanson**, assistant professor of economics and business organization, and director of evening classes, Northwestern University, Evanston, Ill.
- L. D. Upson**, executive secretary, National Cash Register Co., Dayton, Ohio.
- George R. Wallace**, Pittsburgh, Pa.
- G. A. Warfield**, dean of the School of Commerce, University of Denver, Denver, Colo.
- George F. Willett**, Norwood Civic Association, Norwood, Mass.
- C. H. Winder**, superintendent of the city schools, Chattanooga, Tenn.
- John W. Withers**, principal Harris Teachers' College; also representing the St. Louis public schools, St. Louis, Mo.
- Howard Woodhead**, department of sociology, University of Pittsburgh; also representing the American Sociological Society, Pittsburgh, Pa.
- S. M. Woodward**, professor of mechanics and hydraulics, College of Applied Science, State University of Iowa, Iowa City, Iowa.
- Victor S. Yarros**, Chicago School of Civics and Philanthropy, Chicago, Ill.
- L. S. Young**, associate professor of political science, University of Minnesota, Minneapolis, Minn.

Besides these educators a large representation from the instructional staff of the University of Cincinnati attended the conference. The Cincinnati Chamber of Commerce and business organizations of the city sent delegates and did much to help in making various arrangements for meetings and entertainment.

The first president of the association, Dr. Charles William Dabney, president of the University of Cincinnati, welcomed the conference to Cincinnati and to the university and presided at most of the meetings. He and Prof. S. Gale Lowrie, as secretary of the committee of arrangements, had organized a most interesting program of visita-

tion which demonstrated the remarkable work of the University of Cincinnati in cooperation with the educational, business, and governmental agencies of the city. Probably more than in any other single place, the ideals for which the Association of Urban Universities stands are being realized in Cincinnati.

FREDERICK B. ROBINSON,
Secretary, The College of the City of New York.

1. THE GENERAL RELATION OF THE UNIVERSITY TO THE CITY.

WELCOME.

BY HON. FREDERICK S. SPIEGEL,
Mayor of Cincinnati.

Training for public service, long established in Germany, has been considered only for a few decades within the boundaries of the United States. Heretofore, in America, faith has been not so much in training for public service as in the old German proverb, "To him to whom the dear Lord gives an office he will also give the necessary sense to conduct it properly."

It is good to know that we have indeed come to a realization of the necessity of training properly for public service. This necessity is emphasized in our own case by the fact that our city, to which I take more than ordinary pleasure in welcoming you, is expending almost eight million dollars a year for the welfare of its citizens. Since this amount must be raised by taxation, its expenditure in various departments should be conducted wisely and judiciously. Under our plan of government the mayor is responsible for every act of his subordinates. When once you realize the amount of work that he is expected to do, you will understand what the duties of a mayor presiding over a corporation of this kind are; and you will also agree that two years is not enough time to train him to discharge properly the duties of his office. Thus, you will see how absolutely appropriate it is that in your discussions here in one of the metropolises of the State of Ohio you should give serious consideration to this matter of training for public service. In your endeavor to solve this question satisfactorily, I wish you all success in the world.

What I particularly desire is this, that you will impress upon the people the need of giving greater liberty to the cities of the different States, in order that they may become at least what they are in Europe, each a free state within a state; in order that the city may be able to conduct not merely its educational, but all of its enterprises without being circumscribed by laws, and by being compelled to go to the State legislature, as undoubtedly you have had

to do in New York, Pennsylvania, Ohio, or in any other State of the Union. As the creature of the State, each city must ask permission to tax itself and to spend its own money in furtherance of the higher ideals of this century.

Furthermore, the time has passed for us to discuss simply the Constitution; the time has come in this great day of progress when we should consider the details of administration, realizing that the proper functioning of these details is more necessary to our welfare than an academic discussion of the Constitution.

RESPONSE.

By CHARLES P. NORTON,

Chancellor of the University of Buffalo, Buffalo, N. Y.

We have come with peculiar eagerness to Cincinnati because here in Cincinnati is an organization at work demonstrating that one of the great problems of the day, the training of Americans for public service, is being solved, and solved well. I come from the city of Buffalo. Buffalo is like so many cities of the United States which have sprung into being as the creation and result of the joining of the great railroads and the industries, and the imperious demand of them both for labor. To Buffalo, as to Cincinnati, there have come the children of the nations of the earth who have heard in their distant lands the mighty call of the voice of a new era whose name is Freedom. They have come with freedom as a new concept to them, confusing it, too often, with wealth and easy living, bringing the inheritance that their forefathers passed on to them, with the notions of government prevalent in their own countries. And among this huge host there were but few, very few, trained to regard the real basic principles of democracy as living forces for the guidance of communities.

On the other hand, they have come to America, bringing to it a wealth of excellent traits. Thousands of Germans have come, bringing the idealism of their race; thousands of Irish, bringing their ready wit and humor and loyalty. The French have brought their charming manners, their grace, their æstheticism; the Jew and the nations of the East their spiritual perception which men of other races have wondered at, but to which they have never attained. On the basic characteristic of the first English settlers, the civic structure is founded in the English sense of fairness and of love of order and of law and of liberty. Italians are here, with their love of grace, art, and music. Yes, each nation has come to my city, has come to every city in this country, bringing to it its best for

the making of the character of a new type of man. It is for us educators to develop their traits and add to these qualities, thus making the new man one who is generous, patient, humble minded, strong, brave, wise, and merciful. And then, when we have trained this composite type of man, we shall christen him with a new and glorious name in history as the citizen who is the evolution of the ages; and the name we shall give him will be "American." This new man looks upon a new world, with new work laid ready to his hand.

In the latter part of the eighteenth century an epoch was entered marked by many distinctions, but most strikingly by what may be called the transformation of the world. The generations before that time, whether ancient or modern, had found the world in which they lived much the same, so far as concerns the common conditions of life; but for us of the present age it has been utterly transformed. Its distances mean nothing that they formerly did; its terrifying pestilences have been half subdued, by discovery of the germs from which they spring; its very storms, by being sentineled, have lost half their power to surprise us in our travels or our work. Netting the earth with steam and electric railways, seaming it with canals, wire-stringing it with telegraphic and telephonic lines; ferrying its oceans with swift, steam-driven ships; ploughing, planting, harvesting, spinning, weaving, knitting, sewing, writing, printing, doing everything, with cunning machines and with tireless forces borrowed from coal mines and from waterfalls, men are making a new world for themselves out of that in which they lived at the dawn of the era of mechanism and steam.

These, however, are but outward features of the change that is being wrought in the world. Socially, politically, morally, it has been undergoing, in this epoch, a deeper change. The growth of fellow-feeling that began in the last century has been an increasing growth. It has not ended war, nor the passions that cause war, but it is rousing an opposition which gathers strength every year, and it is forcing nations to settle their disputes by arbitration, more and more. It has made democratic institutions of government so common that the few arbitrary governments now remaining in civilized countries seem disgraceful to the people who endure them so long. It has broken many of the old yokes of conquest, and revived the independence of many long-subjugated States. It has swept away unnatural boundary lines which separated peoples of kindred language and race. It is pressing long-neglected questions of right and justice on the attention of all classes of men everywhere, and requiring that answers shall be found.

Even these are but minor effects of the prodigious change that the nineteenth century has brought into the experience of mankind.

Far beyond them all in importance are the new conceptions of the universe, the new suggestions and inspirations to all human thought that science has been giving in these later years. If we live in a world that is different from that which our ancestors knew, it is still more the fact that we think of a different universe, and feel differently in our relations to it.

We are the vedettes of a host which shall come to its work of serving and developing the mighty forces that the age in which we live has called into being. And one of the chiefest of them is this governmental experiment, the municipality which we are now considering. The population of the United States at the time of the formation of the Constitution was rural. It is now urban. At the time of the formation of the Constitution the little town meeting was the fundamental idea upon which the Constitution rested, and it was administered by men trained in the English common law and the English constitution, of which it was in fact the outgrowth. To-day the intellectual forces that create the American Constitution no longer are the inheritance of the majority of American citizens. Especially is this the case in the city, and in the cities one of the works of most importance is to either teach the citizens of cities the principles of democracy embodied in the American Constitution, or else to teach them principles evolved out of the great principles of human brotherhood which shall be better than the principles which the founders of the Constitution taught.

We are coming to try and find ways and means to develop the cosmopolitan man, the American, and to make him worthy of the new day that in our own time has dawned so splendidly upon humanity. And the true ultimate of this democracy, if we can develop this cosmopolitan man to grow up to it and adapt him to this new world, is that brotherhood of man which Christ founded so many years ago.

Cincinnati has been for generations an intellectual center, and, if you will allow me to be hackneyed, a veritable Athens of the West. It is fitting that this city should initiate and put into practical shape these principles of cooperation which are to work here. It is fitting that she should initiate and seek out a practical method to apply the higher education and developed knowledge to training her citizens for the service of democracy. In giving to the sons and daughters of men of small incomes the opportunity of strengthening themselves in their various livelihoods; in causing the cooperation between your university and their professions or business or conduct of life, Cincinnati is giving that equality of opportunity which shall cherish the new birth of freedom. In training educated and patriotic citizens for public service she is lessening the chances of defeat in this trial of the theory of the government of the people, by the people, for the people.

RESPONSE.

By ROBERT A. FALCONER,

President of the University of Toronto.

We have all heard for long of certain of the German urban universities which have had close connection with their cities; and some of us know very well the great provincial universities of England, such as Leeds, Manchester, Liverpool, Birmingham, and others in which similar results have been wrought out with great success; but I think that it is to the honor of the University of Cincinnati to have performed a unique function on this continent in being probably the most representative of these urban universities and an exemplar in more or less close similitude of the universities of the older countries.

How full of romance is the history of universities, and how splendidly the institution has adapted itself to the needs of the age. The university has been for the most part creative, rather than imitative. It has been the home of the pioneer thinker and the far-sighted investigator, from whom the generous youth has caught a new vision that caused alarm in the breast of the comfortable conservative, but which became the dogma of a succeeding age. The university has done much to give birth to the spirit of each new era. It has, indeed, served at times to enslave a people to false current conceptions, but most frequently it has stimulated them to noble patriotism and has been the home of quickening ideals which were cherished by its educated youth before their contemporaries were prepared to understand them and adopt them as the ruling conception of the Nation.

We must, therefore, expect that the university of the last quarter of the nineteenth and the first part of the twentieth century will have been modified very greatly from any earlier type. This period has been the age of science, of industrialism, and of cities. Ideas, methods, and discoveries, many of them by no means new or recent, suddenly burst into flower and fruit under the ripening atmosphere of the age. Physical science grew apace. Applications of scientific results to industry created new industries or revolutionized old ones. Inventions and discoveries flowered thick and fast. The means of communication also have been transformed, and new parts of the world have been explored. So ramified the land has been with railways, so furrowed the ocean with steamships, that the conception of distance has been modified and the mystery of the world has in part vanished.

Another result of these improved means of communication and of the industrial changes that have come is the shifting of population. Villages have become towns; towns have become cities; cities have begun to rank by the half million inhabitants' standard. The

urban population in most civilized countries has increased so rapidly that in some countries one-half in others three-fourths, are now to be found in cities and towns.

The town as we know it in America differs from the old town in Europe. It differs in affairs municipal, in affairs industrial, and in affairs educational. Social change has demanded modifications in all directions. Old methods and systems have disappeared, and new ones have taken their place.

In municipal affairs the change is obvious. What was once performed or neglected by guilds is now done by the city itself under its own officials, who do work for the city as a whole and not for any one class. The expert engineer is one of the officials of greatest influence in the counsels of the city.

In affairs industrial the change is marked by the disappearance of tradesmen, craftsmen, and guilds, who had their privileges, who trained for the trade, and who transmitted their privileges to others, and who thus kept alive powerful associations of producers. Not only has the accumulation of men in cities produced new industries, but it has led to social changes, through the necessity of caring for the comfort and health of peoples who have thus been gathered together. A sense of community life has been diffused through the State, the city being regarded as an organism, and part of the higher organism of the State. Everywhere there is an increasing demand for standards, which have to be observed; standards in education, standards in sanitary conditions, and standards in the means of livelihood. Minima are required: The minimum wage, the minimum in education, and the minimum as regards housing. This development in the character of the town has had its effect also on the industrial development.

As you think of the manufactures of the country, two classes stand out before your mind. There is the directing mind, and the executing arm; the engineer who plans, the artisan who works as he is told. There is the engineer who has planned the bridge, built the railway, excavated the foundations; the architect who has designed the building with its thousands of rooms; the chemist who has discovered the new methods and valuable by-products; the miner who lays out the mine. All these are the mind, the controlling thought of our industrial life. Through them and on their advice the energy and will of the capitalist set into motion the machinery of our modern world.

And how complex is the modern world! What skilled directors it demands! It is true that the men who constructed the pyramids, erected the aqueducts, chiseled the marble of the Parthenon and placed it in position combined science and art and engineering skill in a fashion that challenges our admiration. It is true that those

who designed and built the Gothic and Norman cathedrals were master workmen who need not fear the judgment of any age; but in variety of activity, in ingenuity, in the range of application of scientific principles to industry, the modern world stands by itself. This variety, this multiplicity, demands as never before a multitude of skilled directors of industry. Wealth would be idle without them, an inert mass, blind, and groping darkly.

Now, during the past generation our universities have served the life of the Nation well in supplying the country with these skilled leaders of industry. Every large university has its faculty of applied science, and in most this is the faculty that is growing fastest. Yet, we do not hear that of the graduates who are sent forth every spring, like a fleet from our harbor into the ocean of life, there are many derelicts. They get employment soon; with their good theory and their scientific training they pick up through practical experience the principles of their industry or trade, and soon step into positions of command.

Every year we have requests from some source for expansions or for new departments. We endeavor to supply the greatest needs of the country, but it is hard to keep up with the industrial demands of a growing nation.

But what about the noncommissioned officers and men of this industrial army? What of the foreman and the average artisan? Less has been done as yet for them than for their leaders. Let me not, however, allow you to fall into the error of thinking that by curtailing the education of the leaders you will further that of the men. Too much has not been done for the former. More must be done for the latter. Doubtless, the cry has often been heard in this city, as in others, urging that elementary education should be furthered and that too much is being spent on higher education. But the two must go together. A highly educated, well-trained leadership is bound to provide for a well-trained workman. Good engineers require good foremen and good artisans. So in this indirect way the university contributes through its standards in applied science to the creation of an industrial education for the workman.

The skilled engineer, the responsible head of an industrial concern, is well aware that his results can only be attained by means of skilled foremen and intelligent workmen. The higher the attainment and the more outreaching and ambitious the proposals of the directing head, the more earnest will he be to secure the best possible men to cooperate with him in carrying out his plans. The necessary complement to a well-equipped school of practical science or faculty of applied science in which the leaders of our industries are trained is a system of secondary industrial education for the training of

those who are to carry into execution their instructions or designs. Thus, the university indirectly contributes to the whole industrial life of the Nation by creating a need for industrial schools through its demand for efficiency in the workman to carry out the work assigned him by the engineer. In those States and Provinces where professional education is highest will good secondary education be called for soonest.

There is another important aspect of the work of the university in the city life. Thus far we have considered the function of the university in the actual preparation of the engineer by instruction in scientific principles, and indirectly and even directly in doing something for those in the employ of the engineer, the great multitude of workmen. But we must not overlook the character of a university. In a modern State or city its service is not to be confined to any one class; it is for the people, not for any one section of the people. It is not for the city man alone, but also for him who comes from the village or countryside. In politics city may be ranged against country, farmer against manufacturer; in a university never. We must endeavor to look at life steadily and, if possible, look at it whole.

A university stands for the advancement of science, knowledge, the humanities, those principles that are concerned with the constitution of man as a physical being in a physical environment, as a being with a mind, a memory, an imagination, and hope, as a member of a society in which alone he attains to what on this earth we call life. By the books a man reads, by the friendly chats with his neighbors, by his thought on the problems of the State, above all by his kindly deeds in his own home or circle, and his aspirations Godward, he finds life filled with a reasonable and satisfactory content. The function of a university can be fulfilled only in a social atmosphere in which the worth of a human life stands forth clear and luminous. There are hours of work and hours of freedom from labor; the day or most of it may be spent in what is often drudgery in order to get our living, or it may be absorbed in the interest of our work. But too much work stales the mind; the body needs rest or change of occupation; man should call into exercise other powers than those of intellect or affection. Man will forever go forth to his work and to his labor until the evening; but it concerns us in the university to ask in what spirit he fares forth to his work, to what home he returns, and with what measure of intelligence he occupies his evening hours. It is by this extra accomplishment that man refreshes his spirit and with the returning day returns renewed to the round of his toil. Nor is the fullness of life for the rich alone and for the highly trained professional man. It is the right and privilege of all. Our social advancement will be measured by the extent of oppor-

tunity for this self-development and its range among the classes of the people. Social advancement will manifest itself in industrial efficiency. From intelligent people will come a grade of industry immeasurably beyond the work of the dull driven slave.

So the university, open to all and to every class of the community, aiming only at the pursuit of truth in as wide a field as possible, must by its liberal studies and its broadly human view endeavor to set clearly before the people the varied phases of life in its truest aspects—man's history, his endeavors to understand himself, the laws of his mind, his principles of conduct, his social efforts, his scientific interpretation of the universe, and his marvelous control of nature through the accurate intuition of its character and his own powers. Whatever dignifies and ennobles man is a theme for our consideration. Therewith labor, one of man's worthiest expressions, in any and every form, will be invested with a new dignity, and the contempt under which it suffered through the dark centuries, yea, millenia, when manual toil fell to the lot of the underworld of slaves, will be replaced by the self-respect of the intelligent workman who will find his pride in sharing with his sympathetic director the credit of bringing to pass those results which with comprehension he sees shaping under his hand.

II. NEEDS FOR COOPERATION.

CAN BUSINESS METHODS BE APPLIED TO THE CONDUCT OF MUNICIPAL AFFAIRS?

By GEORGE F. WILLETT,

Of Willett, Sears & Co., Boston.

The achievement of a democracy like ours can be no higher than the standard of its citizenship as expressed not only in the conduct of its business affairs but also in the government of the city, the State, and the Nation. Indeed, the conduct of our Government itself should be on such a plane that it would serve as the best example and the highest source of inspiration to our business and commercial interests rather than merit their disdain. We have the power within us, because knowledge is power, but as we look about us we have good reason to pause and wonder whether we can so apply it that we may attain the necessary standard.

It is acknowledged the world over that our most successful American industrial concerns are attaining the very best business methods. We may well learn to apply them also to the conduct of the affairs of the Government.

There is no business in the world that is more efficiently managed—taking its size into consideration—than the United States Steel Corporation, the largest of our industrial groups. The ownership of this company lies within a large group of stockholders. They choose by ballot a board of directors, who, in turn, choose an executive committee for the closer counsel and guidance of their chairman, Judge Gary, who stands at the head of this general executive department which determines the plans and policies of the business. These plans and policies are carried out by the administrative department, which consists of as many operating units—with an expert in that particular line at the head of each—as are required to give every part of the business competent leadership and oversight; all brought together as a disciplined, homogeneous group under one administrative or operating head, President Farrell. He, with the heads of the accounting and financial divisions, makes contact with the executive head, Judge Gary, at a single centralized point.

The difference between these two men is typical of the personnel of the distinct branches which they represent. Judge Gary, trained as a lawyer, holds his place at the head of the organization because his unusual executive qualities fit him to represent ably the interests of the directors and the stockholders; President Farrell is a business expert strong in practical knowledge of the operating end of the steel business, in which he has grown up. Those who best know the methods of this organization believe that they are so sound and effective that, if the company were to become twice as large, it would be just as effectively administered as it is to-day. Its ownership is steadily going into the hands of its employees and into the hands of the general citizenship of the country at large; but, despite this ever-widening ownership, the business itself is wisely and successfully carried on.

It is a simple application of this functional idea of organization that we have followed in Norwood, Mass. Ten years ago the situation in Norwood was inexcusably bad. We had the highest tax rate in the State of Massachusetts, \$25.60 per thousand. With the exception of a memorial library, given by a private citizen, we had no public buildings except our schoolhouses, which were wooden and of indifferent style and construction. Although abounding in splendid natural advantages, Norwood had no parks or playgrounds, no hospitals or similar institutions. The railroad station was a disgrace, although within a few miles of the station are located some of the largest industries of their particular kind in the world.

By a more rigid enforcement of the antiquated Massachusetts tax laws, it became imperative for certain people in Norwood to move away. It was apparent that those who remained would have a still heavier burden of taxation to bear, and the prospects of the town

became critical. Under these circumstances the responsibility of the citizens asserted itself. There came the realization among all classes that the town is a unit and that this idea should control the conduct of its common interests, political and otherwise.

When we began to study our situation from this new point of view and sought to improve it, it became apparent to us that: First, the form of town government that the old New England methods prescribed by law for all Massachusetts towns did not secure unified, efficient, economical administration of public affairs; second, there did not exist any single organization capable of looking out for the nonpolitical and yet common interests of the citizens in matters civic, charitable, and educational in the broadest sense, in such a way as to avoid duplication and waste and to secure efficient and unified handling of them; third, in order to make the town planning effective—to establish parks, boulevards, playgrounds, and improve the style and method of building construction and housing conditions—it was wise and necessary to control the ownership of certain real estate situated at strategic points.

As a first result of this awakened interest, subcommittees were formed, reassessments of property were made, economies in appropriation were introduced, and the matter of devising a business management was taken vigorously in hand. We soon found that in assessing our taxes we were merely distributing the burden of the support of government. The vital matter was to determine how to get the most for the money that was spent.

As a result of several years of study and hard work, a new charter was adopted which went into effect about a year ago. The principal feature of this new charter is the separation of the government into the executive and administrative divisions to which reference has already been made. The executive or official division is composed of the elected officials of the town. Various unwieldy boards and commissions, such as are usually found in municipal governments, have been consolidated into one board of five members (called the selectmen), the chairman of which is the head of the government. This board performs its duties in the same way as a board of directors and devotes itself to seeing that the policies of the town as expressed by the citizens in town meeting are properly carried out. As a part of their duties they appoint the board of assessors and the board of relief (one of the latter board may be a woman), each consisting of three members. In making these appointments the idea is carried out that such boards should be comprised only of those especially fitted for the duties involved and that on this account the members can be better selected by a small deliberative commission than by general vote of the citizens.

Besides the board of five selectmen, the citizens elect a finance commission of three members which makes a general audit of all expenditures and prepares the town budget, and a school commission, which, as formerly, handles school affairs through a paid superintendent.

The members of the boards of the official division receive no salary. Under the new method a comparatively small amount of time—and that mainly in the evening—is required of them, because the actual performance of the work is delegated to the administrative division.

At the head of this division is a general manager. He is chosen by the selectmen on the basis of merit and fitness alone, and he is obliged to choose his subordinates on the same basis. He is in charge of all public work and of the police and fire departments, and it is his duty to organize and direct this work along standardized business lines. He is retained in office only so long as he performs his work efficiently and well. He is assisted by an expert accountant who fills the office of town clerk and whose duty it is to keep a complete record of all transactions and their costs of operation. Every dollar spent must be accounted for as in any well-conducted business, so that every citizen may know what is being done and what it costs.

The second task before the citizens in the regeneration of the town was to create a central community and civic organization; in fact, it was very nearly necessary to create a civic sense. A start was made by inviting to a conference representatives from the various social and civic bodies of the town—the board of trade, woman's club, fraternal organizations, and the like. This finally resulted in the organization of the Norwood Civic Association. Such property as the civic association acquires is to be held for all time by nine trustees for the benefit of the community as a whole. Its management is in the hands of a board of 27 governors, who are chosen by an election committee consisting of the trustees, selectmen, and school committee; so that its control rests with the elected representatives of the people. There is also a woman's standing committee of 21 members, which deals with those matters which are of particular interest to the women of the community and the home. Its purpose, as set forth in its articles of organization, is to promote—the welfare of the town of Norwood, Mass., and to improve the morality, industry, thrift, health, cleanliness, education, and good citizenship of its inhabitants.

There was some hesitancy over the word "civic," but when it was found that its inherent meaning is "belonging to the people," it was accepted as the best possible name.

The clubhouse has a floor space of some thirty thousand square feet. It contains an auditorium, gymnasium, swimming pool, bowl-

ing alleys, a billiard room, game rooms for the children, a social hall, and various rooms used for the meetings of outside organizations. The town meetings are held at the clubhouse, and its auditorium is in frequent use for concerts, lectures, and other public assemblies.

Gymnasium classes for young and old of both sexes are conducted under the supervision of trained leaders for physical development and recreation, and every opportunity is taken to stimulate high standards of character. Exhibitions and contests are held at intervals. In the summer the athletic field and tennis courts are in constant use. One of the most important features of this physical work is in connection with a fully equipped corrective room in which cases of malformation, including spinal and foot troubles, are treated by the physical directors, under the supervision of physicians. By arrangement with the school department the physical training of school children is carried on at the clubhouse and the physical directors coach the school athletic teams. There is now under way a plan for a closer union of the schools with the work of the civic association, so that the school work, conducted along the lines of work at Gary, Ind., may help the children best to meet their opportunities in life.

In addition to its work at the clubhouse, the civic association is doing extension work in outlying parts of the town; social centers are being developed as places of instruction and inspiration for its neighborhood. Within a few months the civic association has acquired ownership of an unused hall in one of the outlying parts of the town, and in still another section the town itself is turning over to the association an old school building.

In one corner of the grounds is the Corner House, so called because of its location. This is the health center. Here is a small hospital with a fully equipped operating room, and it is also the headquarters of the district and school nurses. A new and larger hospital is now being built. There are conducted regularly in the present hospital a dental clinic and an eye clinic, each in the care of a competent specialist. The entire work is under the general care of the women's standing committee, with the practical operation under a trained supervisor.

The supervisor is a graduate nurse and a student in social service, and she has under her a corps of trained assistants—both graduate nurses for service with physicians and attendant nurses for general nursing and home-keeping work. They all live together at the Corner House. They come in daily contact with the everyday life of numberless homes, and their influence is gradually manifesting itself. Norwood has to-day the lowest death rate in Massachusetts. The supervisor of the Corner House is the agent of the board of relief and helps to look after the dispensation of its funds; she

serves to help the unemployed. There is also a fund at the Corner House to assist young men and women to obtain higher educational advantages than are offered in the town itself.

Then, there is the Model House. This is a small dwelling beside the Corner House. It is modestly furnished as an example and illustration of an attractive home within the possibilities of all who are capable of appreciating it.

It should be noted that the civic association is an organization for the purpose of centralizing in some one place the various community activities, rather than a social organization for the purpose of bringing all of the townspeople together on a common social basis. That would be clearly impossible. Each social group is bound to have its own activities, and the natural social life of the churches, lodges, and other organizations is not rivaled in the slightest degree. We must learn to get effective cooperation of our existing social groups. In our community center we are striving to create and arouse this cooperative spirit.

We have a town-planning committee which is following the best practice in town planning, along familiar lines. The Norwood Housing Association has been formed for the purpose of holding various parcels of property—both unimproved land in the outlying districts and improved properties in the residential and business sections of the town. Something like this is quite essential to make effective the best development of the community. Land is held for factory sites, so that the industrial development may be furthered; and, as the demand arises, it is planned to build houses in such number and under such modern standardized methods as to secure the best results at the minimum cost.

The Norwood Housing Association also has in mind the need of centers of recreation and is providing them. It has control of the entire shores of a lake nearly 2 miles long and half a mile wide, which lies on the outskirts of the town. Here it is proposed to build bath-houses, boathouses, and such additional buildings as will contribute to the pleasure of the greatest number of people. One portion of the shore is being set aside for bungalows, so that those who are able to do so may have comfortable homes there during the summer.

All of this brings in revenue; in fact, it is expected that from the development of this property the housing committee will secure very handsome returns and a large increase on its investment. This increased investment becomes an endowment fund for the civic association. It has been carefully worked out in this way: For the land deeded to it, the housing association issues its securities to the full extent of its cost or assessed value; mortgage bonds paying 5 per cent are issued for 60 per cent; preferred stock paying 6 per cent is issued for the next 20 per cent, and the common stock holds

the remaining 20 per cent, which carries the entire equity of both the property and its earnings. Arrangements have been made by which the whole of this common stock may become the property of the civic association. As the town grows and its real estate develops, the civic association will thus find itself the beneficiary in a financial way of the development which it has helped make possible. Within a few years it should have sufficient income from this source alone to meet its entire running expenses. It is expected that this endowment fund, started with this common stock of the housing association, will be increased from time to time by legacies from public-spirited men and women in the community who have come to recognize the value of the work of the civic association and who will welcome the opportunity to aid in its continuance. The bonds and preferred stock of the housing association offer a safe and attractive investment for the townspeople, and at the same time serve to stimulate their interest in the whole undertaking.

As you well know, this idea of the housing association is not a new one. There are over 100 cities in Germany which have no municipal taxes, because all the money for public expenditures which would otherwise have to be met by taxes comes from the leased property which the cities have held for years.

Norwood appears to have made a real beginning. By assigning the duties of the town government to these two classes of men—one, honorable officials serving without salary, meeting at convenient intervals and giving to the town the same sort of attention that they would give to a private enterprise of which they were trustees or directors, and the other, business experts, chosen by careful methods of selection—we have established a well-ordered, economically conducted government. We have secured greater democracy, because we have broadened the field of citizenship from which these officials may be chosen; and we have gained greater efficiency, inasmuch as it is now possible to introduce the best possible methods.

The same principle of committee representation, working through paid experts, is giving us and our general community work the same splendid results. For a given amount of money we are, in my opinion, accomplishing very much more than formerly. It is astounding to consider what savings and gains could be effected by a similar centralization under expert management in a place the size of Boston, which now has scores and hundreds of charitable and civic organizations. It is true that many of these organizations perform efficient service, but the duplication and confusion occasioned by their great number mean undue expense and only partial handling of the whole task.

There is scarcely a limit to the things which can be done by a community which will find ways of uniting its powers and developing

methods for expressing in action and deeds its ideals. Insurance against sickness and the loss of employment will go far toward removing a great fear from many households. We expect that we can work out in terms of the community some such form of insurance; and other problems are, we believe, capable of solution when once the community shall have appreciated its needs and its power to achieve.

In all these matters we are simply making effective in an old-fashioned New England community the same principles that have made German municipal management the most efficient in the world, and we are doing it by the cooperative effort of its citizens under the guidance of leaders of their own choice and kind. If we in Norwood, with no university to lead us, have made some progress in the direction of efficient democracy, how great are the possibilities of the cities of this country in which are established great universities, dedicated as they are to sound scholarship and lofty ideals of citizenship.

THE DEMAND FOR TRAINING FOR PUBLIC SERVICE.

By GEORGE R. WALLACE,

Pittsburgh Chamber of Commerce.

The time has not yet come for the urban universities to conduct an aggressive and insistent campaign to secure the employment of trained men in the public service. Something, of course, can be done; more in some cities than in others; but we have not yet reached the time for reaping the harvest of expert and efficient public service. We are rather still in the process of breaking the ground and sowing the seed. Expert public service will come only when there is a demand for it—not a theoretical demand that we ought to have expert service, but an economic demand, an actual desire on the part of city administrations to secure trained and efficient workers and to establish a permanent administrative organization on this basis.

City government is the product of the social and economic forces working in a community. In order to understand why a people which has developed great efficiency in its private affairs has failed to do so in its city administration, it is necessary to make some analysis of these forces.

Our city populations may be roughly divided for our purposes into three groups. There is, first, the general group of the average, nonpolitical citizen—the man who is earning from \$700 or \$800 a year to \$5,000 or \$10,000 a year. This group will constitute about half of our city population. It is composed of men who are essentially private men. They are absorbed in their private business and

family affairs. Many of them, if not natives of other places, were born in what was practically an overgrown country town, for a generation ago most of our large cities were little more than that. These men have no inherited loyalty to their city. Very few of them feel that the city government is of any vital importance to them. Perhaps a majority of them regard politics as something more or less alien to their real interests. They distinguish between business and politics, and many of them pride themselves on knowing nothing about the affairs of their city government and of taking no interest in them. Although there is a constantly growing sentiment among these people for better conditions in city service, they are unorganized, without power of effective action, without leadership, without the means of securing the very considerable funds which are necessary for successful civic campaigns. They are the easy victims of trumped-up issues, popular slogans, and appeals to party loyalty.

It is true that from time to time they grumble about high taxes, bad streets, poor fire and police protection, and occasionally, under the impulse of some dramatic happening, they unite and sweep their representatives into power. The result is almost always disappointing. The men elected, with the best of intentions, are utterly unskilled in city administration, lacking technical knowledge, uninformed as to the real purposes of city government, and are subject to pressures which greatly embarrass and hinder their successes, while the mass of the population, after such an election, relapses into indifference. Most men of this class come to regard present civic conditions as natural and inevitable, for they have no knowledge of city government in other countries and no point of view for comparison.

Above this group is a small group of men representing large economic units, who are intensely interested in city government, but in a private and personal way. The public utilities of most of our cities are owned and operated not by the city but by corporations. Those who are responsible to the stockholders of these corporations are primarily interested in the success and earning power of the corporation. This success and earning power is very greatly affected by the city government. These corporations must have franchises, as required, on satisfactory terms, privileges of opening streets, placing wires and conduits, regulations of surface openings, of questions affecting the cleaning and maintenance of streets, etc. A hostile city government can do them vast injury. By the very pressure of economic necessity they have been driven into city politics.

There are other groups in the city which necessarily, as a matter of business, are vitally interested in the city government. The liquor dealers, for instance, can have their profits greatly affected by the attitude of the police department. There are city contractors, and

there are the men on the shady side of the law, whose very existence depends upon a friendly administration.

In the American political system city government is inextricably enmeshed with the State and National Governments, and larger groups interested in State and National legislation and administration feel themselves compelled to protect their interests by taking a strong hand in the affairs of the city administration.

Below the great middle class lies the submerged class, the unskilled workmen, the thousands of foreigners, men without friends, without resources, without any economic strength, and therefore without any political strength. Perhaps 25 per cent or more of the actual voters in our large cities may be included in this class of helpless voters. The law gives them a ballot, but their economic position deprives them of it. They are at the mercy of the police and the police magistrates. They buy peace in the easiest way—by taking orders. There are precincts in many of our large cities where the mass of the voters are so helpless that they can not even protect their registration or secure the counting of their ballots. Then there is the large and increasing public pay roll. In many cities nearly 10 per cent of the actual voters are on some governmental pay roll. Economic necessity controls most of these votes, and the votes of men in their families.

There are also in our cities many men of narrow circumstances to whom politics afford an excitement, a recreation. It is to them the greatest national sport, after baseball. They love the fight. They are open to appeals of factional loyalty. Many of them aspire to city employment as a signal honor to be achieved. They are a great force in the recurring contests for the control of the city, and as a rule have no conception of what these contests are really about.

Now, out of these conditions there grows the actual thing which we call American city government. The powerful economic groups, vitally interested from a personal and business point of view in the conduct of city government, by a more or less conscious organization, and by the expenditure of large sums of money, when necessary, are back of most successful tickets in city elections. Their funds and their economic power are used to direct the vote of the helpless group. The great middle class, more or less indifferent and uninformed, confused by long ballots and the multiplicity of campaign cries, are generally divided and ineffective.

It is not the purpose of this paper to pillory the controlling group here described. Many of them are men of high character and real patriotism, but they are absorbed in business, they have never studied the problems of government, they have grown up under the system, they know no other way, and very often they are largely themselves ignorant of what they are really doing.

Suppose they have secured, for instance, as mayor a business man of high standing and character, who really desires to install business methods in the city administration. Almost inevitably he finds himself unable to do it to any extent. In the first place, he is himself without any technical knowledge or any clear views of what the city government is for. The conception of community activity for community ends is vague and faint in his mind. He is subjected to great pressure; his army of supporters is demanding recognition and employment. He is told that he must preserve the political organization which put him in. He is bombarded every day, and often from high and influential sources, to give certain persons employment; while the great mass of voters lies silent, dormant, inarticulate, there is pressure from the other side. Almost inevitably he yields, perhaps to his own discontent and disgust.

Furthermore, the maintenance of the controlling political organization is expensive. The natural impulse of those who support it financially is to pay as little of that expense as possible themselves, and to distribute as much as possible among the general body of the taxpayers. It is, from their point of view, profitable to have an inefficient and overloaded pay roll, because in this way the tax of supporting the organization is not all paid by themselves, but is partly paid by the taxpayers generally, and the advantages which they reap in their own private business more than compensate for the increased taxation which they have to pay.

We have, therefore, an actual government in cities which is of necessity inimical to a permanent, efficient, expert body of public servants. If a university in a city so governed, with whatever diplomacy and tact, offers itself for the training of public servants, and endeavors to insist upon their employment, it will meet three difficulties.

In the first place, if it becomes too insistent, it will be looked upon as meddling with affairs which do not concern it, and the plausible greetings with which its first efforts may be met will soon change into opposition more or less expressed.

In the second place, it will be very difficult to get intelligent young men to enter the city's services under these conditions, because it does not offer them a career. The exigencies of politics may throw them out at any time. They can not count upon rising step by step through a lifetime, as a reward of merit.

In the third place, most universities are in constant need of funds. These funds can be secured only from men of large means, and a university which presses this matter to a point where it becomes troublesome will be very apt to receive intimations that it is going outside of its proper sphere of influence, should stay out of politics, and confine itself to education.

There is another barrier in the way. The organization of cities under the charters in force in most of them makes expert public service difficult, if not impossible. We have been cursed in this country by the adoption of the political theories of the eighteenth century French philosophers. We owe a great debt to Montesquieu, Rousseau, and others for preaching the gospel of freedom, but their views of governmental organization have proven to be hopelessly wrong, and yet they are the basis underlying most city charters. We elect all manner of men for short terms, and in particular we elect the chief administrator, the mayor. Almost inevitably he is either a politician, bred in the old school, or a business man, unskilled in city government. In the former, he has no sympathy with efficiency. If the latter, he finds himself thrown into an occupation which is strange and new to him. He is necessarily cautious, timid, and uncertain. He is surrounded by great pressures. If he has the right stuff in him, after struggling for several years he does acquire some degree of knowledge and skill, and then his term has expired and the charter generally provides that he can not be a candidate for reelection. With an inefficient, confused, and constantly changing head, no administrative organization can rise very high. We must learn a lesson from the splendid city governments of Germany and other European countries. We must elect a council which shall serve as a board of directors, and let that council select the mayor or the *bürgermeister* on a basis of expert knowledge and ability, maintaining him in power so long as he renders good service. With a permanent and efficient head, there is a possibility of obtaining efficiency throughout the organization.

I do not paint this picture for the purpose of encouraging pessimism or discouraging the urban universities from attempting a great service to their cities. Conditions are rapidly improving, have improved enormously during the last 20 years. In many cities a foothold has been obtained for expert service. Some very gratifying results have been obtained in Pittsburgh, but after all, they are more or less sporadic and exigent. At present, the main fight should be waged in another place, where the universities can perform a great public service, greatly advance the day of real efficiency, and eventually put themselves in the place where they will be called upon by the cities to train men for city service.

Every year thousands of our most promising young men go through our urban universities. They go from them into the thick of city life. The work must begin with them. They must be given such instruction that they will be centers for the development of that intelligent public sentiment which is a necessary precursor of the thing we desire. Let no university undertake to serve its community unless it has that infinite patience which is willing to dig

to the bottom of things and build slowly and solidly upon the rock foundation.

Now, what are these boys to be taught? The merely altruistic and emotional appeal is not enough. Our people mean well enough. What they need to learn is the tremendous, vital stake which they have as individuals and as communities in the conduct of their city government. The controlling facts must first be thoroughly learned by the universities themselves, and then taught to their students.

Why is it that we are so far behind European cities in this respect? Primarily because we have only recently become a city-dwelling people. We know little about cities. They are largely foreign to our processes of thought. At the time of the Revolutionary War there were only 12 or 15 chartered cities in the United States. The largest of them, Philadelphia, was not as big as many city wards to-day. In fact, the great growth of our cities has come since the close of the Civil War. Into them have been poured men from all sections of the country who have come into them indifferent and unconcerned, having no knowledge or conception of large community life, and the vast distinction between the country dweller and the city dweller.

It is a fact that in the small community the local government is not of much importance. The farmer or the villager does everything for himself. If he wants water, he digs a well or a cistern, and he has his water. The city dweller can not do this. The city provides him with water; and this is so whether the city owns the waterworks or makes a contract with some private organization for that purpose. The city likewise provides light and transportation. The man in the small community has little need of police protection, but lawless men accumulate and operate in the cities, and protection must be furnished by the city itself.

The rural man can protect his own health. The city man can not. The infected water, the poisonous sweatshop, the filthy slum may strike down his nearest and dearest, and he is helpless unless the city itself protects him. The city dweller has no protection for his children against moral infection. The plague spots will exist and contaminate unless the city government stamps them out. The business development of the city dweller is largely dependent upon the city government. The merchants may compete with each other for all the business there is in the community, but they can not enlarge the city. The city with high taxes, bad housing conditions, poor water, poor schools, poor traction service, poor opportunities for recreation is undesirable to live in, undesirable to establish plants in, while the city in the reverse condition is constantly drawing new populations, new consumers, and new capital, and so enlarging the opportunity of every dweller in the city for either employment or

business. In every respect the city, and the larger the city the more true this is, is the factor most largely controlling the social and economic environment of the citizen.

Let the universities give sound, fundamental instruction to the constant stream of young men passing through them, so that they shall come out with some conception of what community activity is, of how important it is, with a breadth of view and a grasp of the larger relations of things, and a situation will soon be produced which will enable the universities to render a service greatly needed and increasingly desired in the training of men to the honorable career of efficient and expert service to the city.

A SEARCH FOR THE MAXIMUM CAPACITY FOR SERVICE.

By DR. HOLLIS GODFREY,

President of Drexel Institute, Philadelphia, Pa.

THREE PRIMARY PURPOSES OF A TEACHING INSTITUTION.

The cooperation of any college with its community provides a problem with most complex factors and with an amazing number of variants. Because of that very complexity, effective cooperation demands the determination of a clear-cut general policy which can be clearly expressed to the community. Such a policy can only be effective when based on decisions which result from carefully made studies. Such studies can be accepted as guides only when they are made with a full understanding of the purposes of a teaching institution.

The primary purpose of a teaching institution to-day, as in the days of Plato's academy, is to transfer a vital thought from the mind of the teacher to the mind of the scholar. Any study has lost the essential touchstone of inherent truth which does not bear in mind continually as a fundamental concept the thought that any change made as a result of study which retards or blocks the transference of the vital thought is a loss, while every change so made which aids in that transference is a gain. No one can recognize more clearly than the trained and experienced engineer that efficiency is but one factor in economy, and that any economy which does not include spiritual and human factors is not true economy.

The administrators of any educational trust have, however, second and third purposes to carry out which are as basic as the first. Like any other trustees, they are given certain funds to administer. It must be their ideal to see that no dollar of the funds is wasted. Every student who comes to the institution gives to the keeping of

the trustees many hours of his life. Consequently the third ideal of the trustees must be to see that no hour of the student's time is wasted through their fault. The term "trustees" in this connection includes not only those technically so named, but also every member of the teaching and administrative staff.

THE METHOD OF ATTACK UPON THE PROBLEM.

Three fundamental purposes of college investigations having been defined; the method of attack comes next. Fortunately, we have for this certain clear lines of procedure, based on analogies from the industrial world. If a thoroughly modern bank desires to have a complete report on a given business project, it requests reports not only from men trained in the special trade, craft, or art which it is proposed to establish, but it also seeks the advice of consulting engineers and lawyers. Only after the reports of all three groups are in can a complete picture, sufficient to warrant the investment of funds, be secured.

When that is true where funds and their investment are alone to be considered, how much more is it true where the investment includes the precious hours of thousands of men and women.

THE DREXEL INSTITUTE'S SPECIFIC PROBLEM.

With the three primary purposes and the known method of attack on industrial problems as starting points, we have been endeavoring to answer this question: How could the Drexel Institute, a small college type of technical school, giving day and evening instruction in three schools—engineering, domestic science, and arts and secretarial—give by means of its courses the best cooperation with the community factors of Philadelphia and at the same time carry out certain expressed desires of its founders?

In the attempt to answer this question, up to the present time 39 specific researches have been begun and continued for at least one year. Some 16 others have been begun during the last year and are now in various stages of development. Of this group there have been selected for the purposes of this paper brief statements of certain factors concerned in the studies made of the following subjects: Admission requirements; the institute catalogue; the distribution of scholarship funds; curricula; graduate work of the staff; teaching services of undergraduates; the employment of graduates and undergraduates.

ADMISSION REQUIREMENTS.

That upon the rock of entrance requirements the good ship "Cooperation" may be in dire peril of shipwreck goes without saying. We considered this question of what should be done about entrance

requirements, therefore, with the utmost care, and finally answered it by means of the following methods and in the following ways:

First, the admission requirements of every institution of collegiate grade in and around Philadelphia were obtained and analyzed.

Second, the entrance requirements of 230 colleges in the United States were analyzed.

Third, there are 119 four-year high and preparatory schools from whose districts students may take trolley or train to Philadelphia daily. Sixty of these were visited personally, and in each the principal of the school was asked to give us his or her best thought on the relation of admission requirements to the problem of cooperation between the high schools of greater Philadelphia and the Drexel Institute.

Fourth, a group of the men who have had the most experience with admission requirements were chosen and brought to the institute to aid us with their advice. We also took the data obtained to other experts who could not come to the institute.

Fifth, the results of all these studies were briefed and charted and submitted to the admission committee and then to the major faculty of the institute, who passed upon them.

The result of the studies outlined above showed, first, that the tendency of all the colleges in our field to require specific subjects for admission generally forced the student to decide the course he was to take at least by the end of the first year in the high school, or else to take more than the usual four years.

Second, that a considerable number of colleges of the first rank in the United States were giving admission on the basis of high-school graduation requiring work of high quality, but not specifying any given subjects.

Third, that the principals of the high schools in greater Philadelphia felt almost unanimously that there was great need for some collegiate institution to grant admission to high-school graduates of high quality who had not planned to go to college until the second or third year of their course and who would be debarred from entrance at the end of the four-year course because of that delay in decision.

Fourth, that every man consulted who had had to do with entrance requirements believed our wisest course would be to insist on quality, rather than on specific subjects, provided high-school graduation was secured and provided the proper safeguards be put around the admission of the entering student.

The result of this policy, so far as the quality and preparation of the students entering the institute is concerned, has been admirable. Of the freshman class last year, 95 per cent were high-

school graduates. This year 94 per cent were high-school graduates, and no conditional student is admitted unless we can see a specific reason in his or her case for such admission.

So far as our relations with other institutions are concerned, the result has been most satisfactory.

THE COLLEGE CATALOGUE.

No single factor more advances cooperative action between the college and the community than clear expression of the opportunities that the college offers. Every college should place before its community those instructional opportunities which a part of the community desires or should desire. From the educational standpoint, however, it seems eminently wise to throw the emphasis on the fact that the college offers an opportunity to the student, rather than that the student grants an opportunity to the college when he enters it. For that reason the Drexel Institute limits its public statements to its own publications. Its belief that simple, honest statements of the work done, coupled with the best possible printing, were the most effective publicity program that could be secured, provided the basis for the next research mentioned here. This research was undertaken to determine the best expression of the facts about the institute. One part of it took this form: What is the most effective form for the college catalogue? To determine the answer to this question, the following methods were employed:

First, 420 college catalogues were examined and their main points noted and analyzed.

Second, the best catalogue work of certain industrial lines, such as the automobile line, which have come to recognize the value of good printing, were examined and analyzed.

Third, a group of experts in the printing art, including some of the best-known printers in America, were asked to the institute to go through it and to assist in writing specifications for the make-up of a catalogue which should properly express the institute to the community.

Fourth, as a result of the suggestion of those experts, 18 type pages were set up, one after another, and submitted to the printing experts, to oculists, and to illuminating engineers. The eighteenth page set was the one finally accepted. The catalogue as last issued is the result of this research.

The writing of the catalogue has been quite as carefully considered as its format. Each year it has been written by one man, but this man's work has been criticized by three trained writers and editorially amended and checked: The catalogue is now in its third form.

Style, however, is less important than directness and simple honesty. In order to obtain these things, all the essential facts in the

catalogue are placed for inspection in the hands, first, of the major faculty; second, of the minor faculty; third, of the upper classes of the institute. All of these groups meet in conference to go over the facts in the catalogue, with the request that they criticize freely any word or phrase which is in any way untrue or in any way misrepresents the facts about the institute.

We can scarcely emphasize too strongly the value of this research as shown in the educational results to students and faculty and as regards the cooperative results with the community. There is no single factor which has caused more vagueness in the efforts for cooperation than ineffective and confused expression of educational aims and opportunities.

THE DISTRIBUTION OF SCHOLARSHIP FUNDS.

In the two preceding researches the work was accomplished by the cooperation of outside expert assistants and inside experienced effort. In the next research, to determine the best use of scholarship funds, the third of the three factors mentioned earlier, the legal factor, appears. This research passed through the following stages:

First, examination and classification of all applications for financial help from students received during a given period of time.

Second, personal interviews with older students and their parents to find where, if anywhere, financial pressure was most evident.

Third, the designing of a policy as regards scholarship funds which should be equitable to all and do the greatest good to the greatest number.

Fourth, consultation with the corporation counsel to obtain an opinion as to whether or not the policy proposed carried out our legal and moral obligations.

As a result of investigations one and two, it was found, first, that a large percentage of the students who had held scholarships preferred to give work in exchange for financial aid, provided this were possible, and second, that one of the most serious handicaps to the planning of individual student finances was the uncertainty of the one who paid the bills concerning the cost of books and supplies.

The plan finally proposed solved these difficulties. Exact studies showed that by using the existing scholarship funds to purchase the more expensive technical works required, it would be possible to guarantee every entering regular student that his or her maximum cost of books and supplies not representing permanent investment would not exceed \$25. An amount of work commanding a wage equal to the scholarship funds then granted was at the same time opened to student assistance.

The plan outlined was submitted to the corporation counsel, who decided that it legally and morally carried out the purposes for

which the funds were given. This has meant a marked step forward in the clarification of our relations with the community.

CURRICULA.

Our use of the usual principles of the perpetual audit and of the perpetual inventory, with daily reports of the financial and educational state of the institute, has had the unusual effect of initiating studies which have resulted in three of the most fundamentally co-operative policies we have undertaken.

The first of these policies is the complete differentiation of our curricula from the curricula of any other institution in our territory.

Second, the development of the group of the night school, in which 1,500 men and women are now entered for continuous balanced courses of from two to seven years.

Third, the development of our plan of offering to any 16 persons any course given in the institute at any time when a teacher is unoccupied and a classroom or a laboratory is vacant.

As a result of these policies, we are rapidly reaching a point where some classes are working in the institute every hour of the day from 9 in the morning to 9.30 at night.

OTHER STUDIES.

In order to encourage graduate work, the institute pays the first fee of any member of its staff who desires to take courses at the University of Pennsylvania or Columbia. Last year 23 availed themselves of this opportunity, and 29 are doing graduate work this year.

As a result of an extensive study, we determined upon the policy of using the teaching powers of the upper classes for community service. The school of domestic science and arts furnishes teachers, free of charge, from among the ranks of the older students to charitable institutions in Philadelphia. The control of this outside work is vested in three members of the instructional staff, who are given specific hours to care for the effectiveness of the service.

The study concerning the employment of graduates and undergraduates has found effective form through the activities of the bureau of recommendations. Up to the present time these studies have been concerned chiefly with work open to graduates, vacation work open to undergraduates, and employment for undergraduates which can be carried on together with their academic work.

We have postponed, up to the present time, two vital studies which are now beginning: That of bettering the employment of the older graduates, and that of the employment of students in the night course.

Studies were made of the specific employment needs of the members of the national engineering societies in Philadelphia, certain branches of the iron and steel industry, the public service corporation, and the engineering branches of the city. On the women's side studies were made of the employment needs of hospitals, institutions, and schools, and especially of the executive who employs the women graduates of our secretarial school.

Our efforts have been very successful. Of 154 graduates of last year, all but one who desired positions are well placed. Over 30 per cent more good positions were available than we had graduates to place. Between 80 per cent and 90 per cent of our upper classmen worked last summer at employments closely related to their professional training. Their average for the summer was approximately \$145.

In concluding this brief report of some phases of the continuous and arduous work of two years, certain facts should be noted. First, we are fully convinced that any problem will yield to this treatment, given the right conditions. Second, we have to-day more research work and we see our problem as a whole and the relation of each part to the whole more clearly than at any previous period. Third, we are more open-minded than ever before and more anxious for every possible type of assistance which may aid us in the definition and solution of our problems. Fourth, we really believe we can see marked gains in our cultivation of that rare flower—common sense.

But, beside all this, our statement would be incomplete did it not bear witness to the spiritual values which have come from the combined effort of a devoted group, each member eager to bear his or her full part in our research to determine the maximum capacity for service of the institute. Nothing is clearer to those of us who have taken part in this work than that it has affected us all in such a way as to give us greater pride in our great art of teaching, greater pride in our institution, greater pride in the community of which we are a part.

COOPERATION WITH BUSINESS ORGANIZATIONS.

By MR. JOHN W. FAHEY,

President of the National Chamber of Commerce.

Organizations of business men have been undergoing a rather thorough reform. The old-time commercial organizations, chambers of commerce, boards of trade, and commercial clubs we have had with us from the first days of the Republic; but until recent years these organizations lacked the breadth of view which should characterize the work of modern business men—men realizing that

there are problems of great importance affecting business and the common prosperity which have to do with the welfare of the city and its social progress and which do not come directly across the desk of the business man in his daily work.

But now, in nearly every one of these organizations, greater emphasis has been laid upon civic activity than ever before. In one city after another the business men have finally overcome the old-time suspicion of the professor as a theorist. And on the other side colleges and universities have come to see that the business man was not quite so intensely practical and ultraselfish as he was assumed to be, but that he had something of idealism and even altruism about him; that he was anxious to be of real service, realizing that the broad path to public confidence for the business man lies through service, and through service alone.

In training for public service an important point is that while we train young men as efficient public servants, as experts in municipal affairs, we must understand that they are going to have difficulty in holding their places and going on in their useful careers, unless they have the backing of intelligent citizenship—a citizenship that is based on leadership. So far as this leadership is concerned, there is a large amount of useful material among business men as a group.

Another part of the problem will depend for solution upon the upbuilding of schools of commerce. To support municipal efficiency, the business organization of a city must itself be efficient and prosperous. We need better training for business, better commercial training. We may say that there is nothing like practical experience in making the best type of business man, but business men are beginning to understand to-day that they can not have too much training in intelligence that can be utilized and adapted in daily practice.

THE NEED FOR FURTHER INVESTIGATION OF THE PROBLEMS OF TRAINING FOR PUBLIC SERVICE.

By LEON C. MARSHALL,

Dean of the College of Commerce and Administration, University of Chicago.

We are in a very puzzled and mixed frame of mind concerning the whole question of public service and the training for public service. Good intentions we have by the wagonload; ideals we have in even greater abundance; but clean-cut policies, cool decision, these we sadly lack at the present stage of our undertaking.

A few months ago the former president of De Pauw University illustrated what different people do at times of mental indecision. He told of a group who were making their way through an uncharted wilderness. Just when they were in what seemed to them

the hardest part of their journey, all at once a fog settled down and blotted out all of the landmarks with which they had become familiar. Thereupon one collection of that group of travelers said: "The only thing that we can do now is to retrace our steps and get back to high ground from which we can take another look and see if we can discover the old landmarks back there, set our stakes, and make this journey over again, and perhaps the next time we can go on a little farther." Whereupon they retraced their steps. Another group felt not at all that way. They said: "There is no use going back over the territory that we have covered. This fog will soon lift; it will be dispelled by the sun, and we will be able to go on. Let us sit down and patiently wait, and meanwhile we will regain some of our strength; and when the fog lifts we will have recovered from our fatigue due to the journey that we have already made, and then we can go on with confidence." The third group would have none of that. They said: "No; let us plunge ahead. We will not know where we are going—that is true—but we will be on the way." So this third group plunged ahead through the fog; they tore their clothes on the briars and brambles, bumped themselves against logs and stumps that lay in their way, encountered various difficulties, and very likely some of them did push through; but the group became separated, and few, if any, of them ever reached their journey's end. But there was a fourth group that said: "It is no use for us to go back over the ground we have already traversed; we could not find the landmarks there if we did go back. Let us calmly consider and take stock of the situation as it is. We will reflect from what direction we were coming when we were stopped by this fog; where the sun was the last time we saw it; what the general lay of the land is, to the best of our knowledge; and on the basis of all the investigating and thinking over the matter that we can do we will proceed cautiously, moving slowly ahead all the time, meanwhile keeping close connection with each other, and see if we can not arrive at the promised land in that way."

This seems to depict fairly accurately the situation with reference to the training for public service. We must proceed slowly anyway, and we shall certainly be more comfortable if we are a little patient in the situation in which we find ourselves. The development of institutions should be lessons for us.

Take, for example, the modern college of commerce. The college of commerce originated in this country in the eighties. One educator generations ago outlined a program of training for commercial purposes, but there were no colleges of commerce established as the result of his outline. The time was not yet ripe. Many things had to occur before the time was ripe. The same thing was true of institutes of technology. They had to be preceded by a period of prepa-

ration which was upon the whole quiet preparation. The same thing was certainly true of the "industrial revolution" as a whole. We say it occurred after 1750; but if there is any one thing that is certain in human history, it is that the "industrial revolution" began before the year 1300 and was in process of preparation for five hundred years before a few inventors struck the match to the powder and gave us the explosion that has been called the "industrial revolution."

No human institution is perfect. If Frederick W. Taylor could, as he did when he was alive, step into the best shops in the United States—not the poorest shops, but the best shops—and with the same equipment increase their output anywhere from 100 to 1,100 per cent; if the steam engine to-day makes available but a small percentage of the energy that is in coal; if it is true that even according to present knowledge the human race is sometimes like one-quarter of 1 per cent efficient; if there is even a modicum of truth in these general propositions, we may well judge this movement of training for public service not by some absolute standards but by what may reasonably be expected of human beings in matters of this sort. We shall need to keep a calm and sane perspective and accumulate our powder until later or somebody shall be able to set the match to it. It may be that we shall not have to wait long. But only when we have arrived at the full consciousness of our needs in this country may we expect rapid progress to occur in training for public service; consequently patience seems to be one of the virtues that we may well cultivate for the next few years.

Another thing it seems to me would be highly important, namely, that we do not overlook the necessity of laying a good, firm foundation. The public servant is like a physician—indeed, he is a physician to society. In sending out these physicians to society we must recognize that the social organism is quite as complex as the human organism. Would it not be well, therefore, for us to make certain that our physicians go forth knowing first the physiology of the social organism; knowing, second, the pathology of the social organism, and possessing, finally, all the administrative qualities and all of the technique that we can crowd in behind? It is through technique, as has been very properly said, that much of the physiology can be taught, but let us make certain that we are giving these people a knowledge of the physiology of American society.

We have gone so far in our development of specialized studies since the great Civil War in this country that we have never had time to take stock of our situation. A man who is willing to take stock may by radicals be called "academic." That name does not frighten me, because that sort of work must be performed if we are to have well-rounded preparation. Our undergraduates do not need

more courses in money, more courses in banking, more courses in trusts, more courses in railroading, more courses in municipal government; what they need is correlation. If we provide this correlation and then turn out students who have an appreciation of the structure and function of organized society, we shall be prepared to train a technical body of public servants properly.

III. METHODS OF TRAINING FOR PUBLIC SERVICE.

METHODS OF TRAINING FOR PUBLIC SERVICE.

By CHARLES A. BEARD,

Director of the New York Training School for Public Service.

An industrial democracy can not long endure without a sound and efficient public service. In older and simpler days when this was a nation of farmers, and the functions of government were largely limited to national defense, the repression of crime, and the collection of taxes, it mattered little if waste and folly and jobbery accompanied every public enterprise. The great economic processes of the Nation, even if somewhat hampered by the muddling methods of the State, could go on in the general tenor of their way in spite of the spoils system, rotation in office, and ignorance in public service. The slogan that "any man can fill any office that he can get, whether trained for it or not," although foolish enough in those days, was at least not criminal.

Signs are not wanting, however, that our generation is becoming keenly alive to the problems of public service presented by the new order. It is no mere coincidence that it was largely due to the inspiration of the great organizing genius of his time, Mr. E. H. Harriman, that the training school for public service, initiated by Mrs. Harriman in 1911, owes its origin.

From that hour the idea has taken firmer and firmer root in the American public mind. In 1912, the American Political Science Association appointed a committee to study the relation of the universities to public service, and its reports resulted in the stimulation of widespread interest inside and outside of academic circles. In 1914 the association's committee, on the invitation of Mayor Mitchel, held an important conference in New York, which was attended by representatives of the leading colleges and universities in the country. Since that time, Michigan, Texas, Indiana, Harvard, and Minnesota Universities, and the College of the City of New York have taken steps toward the assumption of strict responsibility in the matter of training for public service.

We may rest secure in the faith that our colleges and universities will respond to every real call for help—so secure in fact that we may now turn from the work of exhortation to that of adjusting our actual program of instruction to such opportunities as the public service at present offers. This adjustment involves two things: First, a regrouping of courses and the addition of new courses which will afford the requisite general foundation and the proper special discipline; and, secondly, the granting of academic credit for field or observation work in government and administration.

The granting of academic credit is undoubtedly a serious matter and must be closely controlled, but it is fundamental to any real advance in training for public service. That it can be done without impairment of academic standards seems certain. We shall have no difficulty in securing academic recognition for field work if we can show that the control over it is such as to guarantee its solid character.

While gaining at the hands of institutions of learning a proper grouping of courses of instruction and due credit for laboratory or field work, we must also devote ourselves assiduously to another more formidable task—that of educating the American public to appreciate trained service, to demand more of it, and to insist upon an adjustment of our civil-service organization and methods to our magnificent educational system. Every year thousands of young men and women are coming out of our schools filled with enthusiasm and high hopes. Plenty of them are ready to serve the state with the loyalty and zeal of the soldier if the state will open the door to them and make the way clear, even though narrow and rough.

The essential part of the program of those who are seeking to improve the public service by securing trained servants is as follows:

1. It is the function of politics to determine what should be done; it is the function of the trained expert to carry out the public will with all the instruments and methods which modern science, natural and social, can command.

2. A larger number of the exempt positions in civil service must be put upon a merit basis. In other words, in every division of government there should be permanent under secretaries whose experience and training will secure continuity in the particular field. Under such a system, the young man or woman entering public service could thus look forward to securing, by the display of genuine talents, positions of dignity, power, and responsibility.

3. There must be created some system of junior offices in the several great branches of administration, which offices will be open to properly qualified young men and women, and which will give them further practical training and open a gateway through promotion for loyal and efficient labor to the higher posts. At the present

time practically nothing has been done to link up the public service directly with our splendid system of education.

4. The residence qualification as a requirement for admission to public service must be abolished or seriously modified, thus widening the opportunities for careers in the public service by making it possible for able and devoted civil servants to move from city to city, or even State to State.

5. The term "examination" must be extended to include more laboratory or field experience, in addition to academic training, thus facilitating promotion and transfers in the public service, and recognizing practical work, such as is given in the training school for public service, and may be provided in connection with most colleges and universities. It is gratifying to note that our most enlightened civil-service commissioners are giving an increasing weight to experience.

Here we might inquire whether schools undertaking this training can hope to place their graduates in positions to which their abilities and labors may entitle them. They probably can. On surveying the public service to-day, we find it falls into what may be called two broad divisions: 1. Official public service. 2. Unofficial public service.

The first of these divisions—the official public service—may be subdivided according to method of appointment into exempt and classified positions. With reference to the exempt group, there is an inveterate suspicion that trained men and women can not look forward to permanent careers in that branch of the public service. To a considerable extent the suspicion is justified.

That branch of the civil service which is open through competitive examination is not only more extensive, but includes most of the positions for which technical training is actually required. The existence of a large number of "cramming" schools for Federal, State, and municipal service is an indication that some kind of special preparation is a gateway to that service. Since this is so, it is evident that high schools, colleges, and universities might, if they would put their minds to the problem, develop courses of instruction which would better equip their students for specified lines of the classified positions, thus encouraging them to enter the service of the State and cooperate in raising the standards of that service.

From the point of view of the nature of the positions, the official public service may be divided into two divisions—technical and professional, and nontechnical.

The first division includes those positions for which technical or professional training is required—engineers, physicians, chemists, foresters, accountants, geologists. For these positions the schools are giving reasonably satisfactory technical and professional instruction, but it would be an immense gain to the public service if they

would add to their curricula courses in public administration involving the several specialties, taxation and finance, government and economics, institutional management, and other subjects calculated to broaden the horizon of the technical or professional student, and make it easier for him to fit into the complex scheme of public administration.

The nontechnical branch of the public service, whether exempt or under the merit system, includes a number of positions which are attractive to those who have had advanced university work in economics and political science, and particularly to those who supplement technical or professional education by such training. Among the positions of this type may be included the following: City managers and administrative officers; civil service examiners; directors of social centers; investigators for special staff bureaus, such as the Federal Trade Commission at Washington, or the Bureau of Standards in New York City; investigators for commissions, such as tax, public utility, insurance, industrial, and other commissions; reference librarians, municipal and State; secretaries and research agents for legislative committees or members; deputies and secretaries to executive officers.

The unofficial public service to which I referred above offers at the present time more available and attractive positions to trained men and women than the official service. One of the striking features of modern democracy is the constant cooperation of the citizens with the Government through civic organization. As the functions of government increase, the matters of these associations will increase and the work of those already in existence will extend. Indeed, our civic organizations are becoming, in fact, gateways to official public service in its higher ranges.

There is one branch of service which is so often treated apart from Government that it is frequently overlooked, namely, education. In the field of education there is a call for trained men and women capable of handling large administrative problems, as well as those of pedagogy. Our normal schools and teachers' colleges are, of course, giving a great deal of attention to this matter, and the time has now come to increase materially the amount of field work and observation. This is done in Massachusetts, where practical administration is counted toward the degree in education.

There is also a problem of educational policy which is vitally connected with the subject of the hour—that is, the training of teachers of government, civic and administrative. The neglect of these subjects, particularly in the high schools, is nothing short of a disgrace to the Republic.

There is another query, namely, is it possible to train men and women for the public service by what may be termed the laboratory

method, which adds practical experience to book learning? This question will be answered by reference to the program and methods of instruction of the training school for public service.

The school insists that its students must have a broad foundation in general government, municipal science, administration, economics, and finance. The school does not at present offer formalized instruction in these subjects, and if an applicant has not already had these fundamental subjects in some college or university, he is required to secure this discipline before he is regarded as prepared for public service.

The school confines its attention largely to training the students in investigation of concrete civic problems, with New York City as the laboratory. The whole field is divided into several divisions, such as : Public finance and accounting; public works; public safety—police and fire administration; social service—the administration of health functions, charities, and correction, etc.; civil service and standardization of salaries and grades; central management and control, including executive, board, and staff organization and procedure.

In the course of his two years' residence the regular student passes through several, if not all, of these divisions. All contact with public officers and all reports of conferences with them are made under the direction of officers or staff members of the bureau of municipal research, who are responsible for statements of fact and conclusion reached. No member of the school is permitted to deal independently with public officers or to render independent reports. We control and check the students' work in many ways, in order to be able to form an accurate judgment as to quantity and quality.

Since the foundation of the school we have sent into the official and unofficial service more than 75 students—lawyers, doctors, accountants, engineers, teachers, and experts in public administration. While we have not escaped all the frailties of the flesh, we believe that the institution has justified the faith of the founders and has found a permanent place among the new professional schools of America. Having no cause to serve except that of wise and efficient administration, charging no tuition fees, seeking no private profit whatsoever, and asking no favors except a just recognition of the merits of its graduates, the training school hopes to command by good works the confidence and esteem of civic organization and authorities of State and to build the new profession of public service on a lasting foundation.

SOME PHASES OF FIELD WORK.

By PARKE R. KOLBE,

President of Municipal University of Akron, Ohio.

By field work is meant the activities of students sent out by a university department to get experience in the actual *doing* of some piece of extramural work. Visits of inspection or observation are not included under this term; they bear much the same relation to real field work as does the reading of a textbook to laboratory practice.

The traditions of education recognize three main factors in the formal training of the student—the recitation, the lecture, and the laboratory. The quiz, the conference, the demonstration, the examination, are only variants or tests of these three basic methods. The science of teaching has reduced them to an exact status. We may refer at any time to a multitude of books on pedagogy which will inform us as to the value or worthlessness of the many theories which have grown up about them. But neither books, professors nor schools have yet recognized the value of the newest factor in education, namely, field work. Few measures have been taken to insure its standardization in method or its efficiency in execution.

Certain standards of comparison may be laid down as basic and applicable to all forms of field work. Such are methods of supervision, means for testing results, and plan of accrediting. Other important factors are the assignment of work, coordination of theory and practice, remuneration for field workers, and practical usefulness of the work.

[Here President Kolbe enumerated forms of field work in various colleges. Then he proceeded to give typical plans of organization, as follows:]

One of the most broadly developed plans of sociological field work is found at Harvard under the department of social ethics. The following is quoted from a recent letter from Prof. James Ford:

Field work in this course has been undertaken in various forms. For example, in my class of last year six members made a thorough housing survey of several blocks in the city of Boston. Each man visited all the apartments within the blocks in his assigned section and filled out cards for each house and apartment. The investigations were made in the company of the regular municipal sanitary inspector of the district. Each student in the course of the term was assigned to several districts and thus to several inspectors. The students were made to summarize the findings of their investigations in different quarters of the city, together with comparative statistical tables and maps of their district. The findings were placed at the disposal of the municipal health department and were also put into the hands of the municipal city-planning commission to accompany a scheme privately projected for replanning of one of the areas inspected.

Two other students studied tenement-house fires, making their inspections in company with municipal and metropolitan fire inspectors.

Other students made maps showing the distribution of new buildings in the city of Cambridge, or distribution of three-deckers and the like, which have subsequently been utilized by the Cambridge city-planning commission.

The amount of supervision required necessarily depends upon the subject at which the student works. I permit no housing surveys to be made except where there is a reasonable assurance that the findings of the investigation will be utilized for the advantage of the municipality. Often there is some private body interested in the investigation made which provides a certain amount of supervision. Municipal supervision is, of course, provided. In addition, I require students to report to me at frequent intervals.

The grade is given for this work precisely as for other thesis work within the department. The student, in filling out housing investigation cards, is acquiring material which must be summarized and submitted in the form of a thesis which is graded in the usual manner. Some allowance is made in grading the cards for neatness and for accuracy of the results obtained. The latter is checked up by reinvestigation of selected portions of the districts examined by students. But the grade of the student for his research is determined primarily by the report submitted. In addition, of course, there are tests upon prescribed reading and lectures of the course which are large factors in determining the grade of the course.

Several interesting points occur in this account. Supervision of field work is here exercised entirely by the city authorities through municipal sanitary or fire inspectors. The findings of the students are primarily for practical usefulness, and serve as information for various city departments and commissions. Frequent reports to the professor in charge are required. Actual credit is given for the work done, the grade being based on the character of the report submitted. The accuracy of results is checked by reinvestigation. In addition lectures are held and reading is required, upon which tests are given. The system thus outlined may well serve as a model, since it meets all the requirements of strict supervision, careful co-ordination, and useful cooperation with civic interests.

A somewhat different kind of field work is illustrated by the activities of students in the settlement house maintained by the department of sociology of Syracuse University. The second annual report of this organization brings out the following facts:

The university settlement is located in the center of the fifteenth ward of Syracuse, in the heart of the most densely populated section of the city. This neighborhood presents, on a modified scale, practically all of the elements of the slums of a greater city. The social work is under the direction and management of the department of sociology of Syracuse University. The greater part of the work is being done by students who are doing major work in sociology at the university. Under the supervision of these a large number of other students assist with the work.

In connection with this settlement, a training class for social workers is carried on at the university in which students receive two hours per week credit for the year, four hours' actual work per week in addition to readings being required. No remuneration is given student workers.

In the Syracuse plan as above outlined the university not only has full supervision of student workers, but even controls the facilities under which the work is done, thus differing materially from the Harvard system. In both, however, the students are rewarded by college credit.

Different again is the plan of field work carried out by students of the Cleveland school of education under the direction of Dr. Jean Dawson in the antityph campaign waged in that city last summer. These girls were selected by Dr. Dawson for their peculiar fitness for the work, after preparation in courses specifically designed for this purpose. While not legally appointed sanitary inspectors, they were granted a definite badge by the city department of public welfare and were backed in every way by the various departments of the city. Their work was to make a thorough investigation of the city, and so far as possible to eliminate all places where flies could breed, reporting to the proper authorities those persons who failed to comply with their directions. For this work each girl received a remuneration of \$7 per week, but no credit was given in the normal school nor was any effort apparently made to coordinate this field work with any concurrent course of study. This plan furnishes a still further variant from those in use at Harvard and Syracuse.

The brief survey just given shows a variety of methods now in actual use in the conduct of field work in colleges and universities in one department only—that of sociology. While fairly representative of methods in general, those just detailed are capable of considerable variation to meet the demands of subject and surrounding conditions. Without going into a broader field, it is interesting to summarize the variations on the basis of the standards of comparison as already indicated:

1. Method of supervision:
 - a. By outside agencies (Pittsburgh, Harvard).
 - b. By the college department (Pennsylvania, Syracuse).
2. Means of testing results:
 - a. By personal conference (Pennsylvania).
 - b. By direct personal supervision (Syracuse, Cleveland).
 - c. By reinvestigation (Harvard).
 - d. By reports, tests, classwork (Harvard, Pittsburgh).
3. Plan of accrediting:
 - a. By giving college credit for field work alone (Pennsylvania).
 - b. By giving college credit for field work with classwork (Harvard).
 - c. By money remuneration with no college credit (Cleveland).

This all goes to show the utter lack of standardization in the realm of field work. It is quite possible that such standardization will never come; that it is not even desirable that it do come. Yet a conference of those under whose supervision such work is carried on would serve to eliminate much of the wide divergency in practice and to secure the universal adoption of certain desirable elements

and the elimination of undesirable ones. I should not, however, like to leave you to-day with the inference that all those attending such a meeting would be professors of sociology. The scope of field work, while not universal, is much broader than the limits of any one department. The following enumeration, which is far from complete, is at least typical of the various kinds of efforts now made:

Practice teaching in city high schools.

Work of cooperative engineering students in industries and city departments.
Church work and preaching (Brown University).

In New York business firms (New York University).

Municipal sanitary inspection (College of the City of New York and School for Public Health Officers conducted by Harvard and Massachusetts Institute of Technology).

School nursing in New York public schools and settlements (Teachers College of Columbia University).

Home economics in New York public-school lunchrooms (Teachers College).
Cooperative law courses with practical law-office work (Georgetown University).

Assistants to city chemist (Akron).

In city offices under bureau of municipal research (Akron).

In addition also a large number of miscellaneous investigative efforts in the departments of political science, economics, and sociology.

It would be unjust to leave this subject without a brief mention of appreciation of the constructive suggestions in regard to supervision of field work by the American Political Science Association as outlined in the preliminary report of its committee on practical training for public service, pages 339-352. Equally enlightening are the remarks of Prof. Jenks, of New York University, before the First National Conference on Universities and Public Service, as reported in the proceedings of that meeting. The following statements quoted from this speech seem to define the essential points of cooperative field work:

It is probable that there has been too great readiness heretofore for teachers in all universities to emphasize the plan of inspection too much and actual work too little. Moreover, this looking things over does not give real training to students. Also, care must be taken to get always a scientific background for all the practical work done. Especially is this true if we are giving training to our graduate students with the idea that they are to occupy later high places in the city administration. There is much danger of the helter-skelter practice and not enough thorough training and supervision.

The keynote of the paragraph just quoted is a warning against lower standards in field work than in laboratory, lecture, or recitation. The problem of increasing the efficiency of field work is one of the most vital questions with which this movement will have to deal.¹

¹ At the business meeting the association framed a resolution to appoint a committee to make a full report on field work. President Kolbe is chairman of that committee. President Kolbe took occasion to convert a misstatement which he had made concerning Hunter College, of the City of New York, and which appeared in the bulletin reporting the proceedings of the first meeting. He had referred to this institution as "Normal College," and as a normal school. He acknowledged his mistake and characterized the institution as a college.

IV. RESULTS OF COOPERATIVE TRAINING FOR PUBLIC SERVICE.

RESULTS OF COOPERATION BY THE MUNICIPALITY AND THE UNIVERSITY IN TRAINING FOR PUBLIC SERVICE.

BY LEMUEL HERBERT MURLIN,

President of Boston University.

Hitherto the consciousness of obligation to public service in education has been confined wholly to the State institutions, but even here it has been neither well-defined nor compelling. The normal school has, in a measure, felt its obligations to public service in training efficient teachers and competent administrators of public-school education. The agricultural colleges, also, diligently applied themselves to all aspects of rural welfare. The State university, at first content to be much like most other educational institutions, its only difference being that it drew its support from the State treasury, now enters into every activity of the life of the State.

Only within very recent years have institutions in or near cities begun to sense the fact that they owe a particular duty to serve the city in all its various forms of life, and that, at the same time, the city provides a unique opportunity for educational equipment, method, training, and service.

Hitherto our American colleges and universities have been located for the most part in the country, meeting the conditions of a social age whose population was largely rural. The rapid growth of cities has changed economic conditions so completely and rapidly that adjustments have not been able to keep pace. Democracy is now put to its supreme tests. We are far from demonstrating that a people can be free, intelligent, social, disinterested, and patriotic enough to govern themselves; and the stressing problem of a democratic civilization is the city. If the university of the twentieth century is to have that place of leadership in our age held by our institutions of learning in the eighteenth and nineteenth centuries, it must, as did these, be located among the people, seeking to clear their vision, to gird them for new tasks, and to enrich and nourish their lives. The municipal university is, therefore, natural and inevitable; its rise marks an era in the development of American education second only to the founding of the public school in the eighteenth century and opening of the State university in the nineteenth century.

Reference has already been made to the great equipment which a city offers a university located within or near its borders. Indeed, the city in itself is a library and a laboratory of manifold learning,

literature, arts, and sciences; its libraries, factories, shops, offices, its vast commercial enterprises; its religious, moral, educational, social, philanthropic, and charitable undertakings; these the student may study at first hand in the very process of their making and onward movement; and he may have, in some small but important measure, a share in their actual development and conduct, thus uniting his thinking and doing, his learning and living, so important in efficient education.

It is rather early to enumerate results of such cooperation, much more so to evaluate. Many universities have been rendering a vast amount of public service without distinctly recognizing it as such. A few months ago the mayor of a certain city called together the heads of the various educational institutions in and about the city; he had just made the discovery that "The Municipality and the University," constituted a rather startling, interesting, and suggestive phrase which might have in it, if not political value, at least good publicity value. There was a cordial response to his invitation; he read an interesting essay which made good material for the newspapers, and they published it in full. The responses of the presidents indicated that almost all, and in some aspects even more than the mayor had pointed out as possible, was being done; and every educator present was alive to the possibilities suggested, and ready to cooperate to any practicable degree desired by the city. Nor is this an exceptional case. In all communities institutions have quietly gone on, doing their work, responding to special calls for expert advice and service, giving them freely and gladly, as a natural expression of their ordinary activity, without taking any special accounting and without giving such service any name.

But far more important than the immediately and obviously practical service of the urban university to the problems of the daily ongoing life of the city has been the general service which the university has rendered in the kind of men and women it has given to the community. It should be distinctly understood that though we give to the city efficient practical workers and efficient practical service, nevertheless our largest opportunity still is, and ever will be, that we give to the city a sturdy, strong, conscientious manhood and womanhood. We must ever keep before us the vision of an ideal manhood and womanhood as our most worthy and most distinct contribution to the welfare of the city and Nation.

Granting all this, even holding it as a fundamental principle, at the same time we can not fail to see that for a large number of students the city and its institutions afford the need and the material and the opportunity for special aims and methods in education. It is, then, the duty of the urban university to undertake a distinct type of educational service, with new kinds of equipment, new methods of instruction, and new forms of administration.

It is, however, altogether too soon to enumerate the results of direct cooperation between the university and the city. We have as yet but the faintest gleams of the possibilities opening before us here; moreover, what cooperation we now have is so recent that we can not measure results. We must wait at least a generation before we begin to tabulate and evaluate the significance of what we are only beginning to see, and of what we have only very slightly begun to use. But we may reasonably suggest a few probable results.

First of all, there is the influence which such cooperation will have upon the colleges and universities. Their instruction will be vivified by immediate pragmatic tests. The reality thus given to the work of the classroom or seminar will arouse professor and student to best endeavor. They understand they are not merely pretending; they are in the midst of the veritable storm and stress of life itself. Now, it is thinking through the problem and doing the definite thing, tested out, tried, and found to be true, that is necessary to make the truly educated man; and a pragmatic test, applied to the student by the foreman in the shop, by the consumer of his product, by the editor of the magazine, or by anyone dealing directly with the ongoing of the practical affairs of life, lends reality, definiteness, vividness, accuracy, and richness to the work done in the university. "My business organization is as much an educational institution as your university," said a successful manager of several large corporations to a college president. There is so much of truth in his statement that educators can no longer overlook the value that will come to both the college and the business organization by hearty cooperation between them in the educational program.

Cooperation in education by the university and the municipality should mean, in the second place, that we shall have scholastic results superior to those which we now have. It is notorious that, save for a very few, there is little of the scholastic habit among college students. The president of a college in good standing, writing the other day, gave two lines to matters scholastic, while all the rest of the full-paged letter was devoted to an account of athletic achievements and outlook, closing with the assurance that the prospects of his institution were very bright! Better, if we must choose, is that statement of a western State university president who, in responding to a questionnaire on athletics, said:

I fear I can not give you any helpful information from our institution; college athletics we do have, but not in the sense that your questionnaire implies; our boys are too busy solving the problems of the desert to have any time for the prevalent type of college athletics.

"Solving the problems of the desert!" Their institution was located in the heart of that region which once appeared on the maps of American school geographies as "The Great American Desert." Ah! how numerous are the problems of civilization in the city, in the

village, in the country, in the Nation! Look at our economic, social, educational, religious situation. It is a desert, challenging the best of heart and intellect for the solution of its problems.

We must be on guard, however, against the serious danger of the present tendency in education to meet the demand for so-called practical efficiency. Too often it means only industrial, material, mechanical efficiency. The following note of warning from the St. Louis Post-Dispatch finds much in our present tendency in education to justify itself:

"Efficiency is 90 per cent" says a solemn bore who presides over a boiler factory full of men. Inside a boiler factory; yes, efficiency ought to be 90 per cent, and if possible 100 per cent of a man. But the inside factory point of view is prevailing too popularly outside. Wouldn't this be a dreary world if men were 100 per cent efficient and mere substitutes for machinery? Shall we have donkey engines conversing in the parlor and steam cranes in the pulpit? The whole human works would consist of interchangeable parts; we should have a standard type of man, and life would be literally a grind. The galley slave chained to the oar was a fair sample of 100 per cent efficiency. The man in the treadmill was likewise going some from the efficiency standpoint.

The ancient Greeks had standards of personal excellence and social worth which deserve meditation when our modern polse is threatened. The composite of these standards has rarely been attained, but he is a beautiful model. Olios represented wealth with grace, opulence, elegance, generosity, philanthropy, altruism—thus wealth the antithesis of plutocratic. Arete stood for what these times worship as efficiency; that is, capability, capacity, executive. Aldos was becoming ideal, a quality the precise opposite of "cheek." Sophrosyne elevated confidence and self-control. Kalokagathie fused into a single concept many notions of economic, esthetic, and moral good; and Eleutheros was the gentleman endowed with all admirable qualities—the noble *rara avis* whom our single aim of efficiency would slay and forget.

True the Greeks, as a historian has remarked, proved that people could sink very low while talking very high. But there is scarcely enough tall talk in our times to indicate our bare possession of ideals—the talk is mostly low-pitched, lumps men as a commercial asset, and lacks in sheer humanity as it does in grace and rhetoric. The world needs another education in the "humanities" such as it received in the Renaissance.

The question of its ideal man-as-he-should-be is the most vital, most fundamental, which concerns any organized society. It is for us of this day to consider: To what doom points a spirit of brutal crassness to which the nobler feelings and refinements are foreign? Shall we humans develop through survivals of the most efficient to become just units in a boiler factory world?

Happily, however, we do not have to descend to this crass standard of efficiency. We do not have to choose as between cultural education and vocational education. We may have both! It is a question of viewpoint and method during the educational process. A man's business in life ought to be a never-ending educational process in highest values; and he should be so educated as to see himself and his life work as a part of an ever-developing civilization whose chief concern, whose very life, depends upon the training and the use of the finer qualities of manhood and womanhood.

In the third place, cooperation between the university and the city in educational endeavor ought to result in a better citizenship. It will be a more intelligent citizenship, for the student's interest and initiative have been aroused to a purpose for nothing less than definiteness and accuracy in achievement. This practical experience in doing and learning in the city university and in the city's business, its industries and common welfare, will awaken in the student a sense of pride in the city that gave him his opportunity for gaining knowledge, and for the training and preparation which has fitted him for his life work. The experience will also awaken in him a sense of his obligation "to make good" in life by the service which he gives back to the city.

Then will we have citizens with a strong community consciousness; the very air they have breathed throughout their lives from primary school to university graduation has been that of men who see themselves as individuals and as integral parts of the whole community. No one of them can run his private business, not even his own home, as if he were the only one who is concerned; he sees at once that his own highest welfare is bound up in the welfare of his neighbors, and of all others whose industrial lives, as his, go to make the city.

In the best-governed city in the world there are 6,000 private citizens serving in unsalaried positions on committees or commissions, giving four to ten hours per week to the service of their city. They are lawyers, doctors, merchants, manufacturers, ministers, teachers, tradesmen, laboring men, each and all freely contributing their share to the common welfare. In such service they find their highest and best selves; they give to the city those fine qualities of personal character which unselfish service always develops in individuals. The city, after all, in its spirit and ideals, is but the average of the spirit and ideals of its individuals.

Let us hope that, along with engineers, doctors, ministers, educators, financiers, business administrators, and all other expert service required in our modern life, one of the first results—as it is the one most needed—of cooperation between the university and the city will be a still larger number of that type of good citizens who stand up and say "I am a citizen of no mean city," and by the quality and character of their own lives and the efficiency and sincerity of their voluntary service to the city have made it great and strong and beautiful in all the things that make for human betterment.

**COOPERATION BETWEEN THE BUSINESS MEN OF NEW ORLEANS
AND THE COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION
OF THE TULANE UNIVERSITY OF LOUISIANA.**

By MORTON A. ALDRICH,

Dean of the College of Commerce and Business Administration, Tulane University of Louisiana.

The business men of New Orleans realize the responsibility of their position at the gateway. Quietly and efficiently they are preparing to serve the growing commerce of the Mississippi Valley, and one of the responsibilities which they feel is that of providing adequate training for the young men who are preparing for a business career.

When a few representative New Orleans business men made up their minds that their city should have a college of commerce they found three groups of people to which they could turn for help. First, there was the city's organization of business men, the Association of Commerce; secondly, there was Tulane University; and, thirdly, there were those individual business men who were especially interested in the establishment of mature business education. Their problem was to mobilize and combine these forces. There was nothing unusual or peculiar to New Orleans, you see, either in the problem or the situation.

From the outset it was clearly understood that the college of commerce and business administration is one of the professional schools of Tulane University, and that the university has complete and undivided control of its appointments, of its policy and standards, and of its educational bill of fare.

But it was the ideal of those who took the lead in this movement that a truly substantial and adequate foundation for a college of commerce must include the active interest and support, not only of the university, but of every one of these three groups, and, moreover, that this support should be so organized that in each case the interest would be permanent.

Especially was it desirable that the individual business men who contributed money to the college should be organized in some way so that they would not feel that their responsibility ceased with the signing of a check. In all this cooperation it was not merely money that we were seeking, but solid, active, day-by-day interest, and helpful suggestions and support.

The business men of Germany have come to think of their colleges of commerce as an essential part of their commercial development. And in an American city a college of commerce can accomplish only a very little of what it might otherwise do to help unless the business men come to think of it, as they think of their exchanges and their

railroads and their banks, as a natural and essential part of the city's business equipment and business life. We set out, therefore, to hook up with the college the interest of the business community. The result is that our college of commerce is to-day in the happy situation of having three parents solicitous for its welfare instead of one.

How is this cooperation between the business men and the college of commerce worked? What does the Association of Commerce do? On the material side, it provides ample quarters in its own building for the night courses which the college offers for business men and women (in addition to its four-year day course in the college buildings) and for the public informal Friday night talks. Furthermore, it advertises the college of commerce much as it advertises any other department of its work.

Another valuable result of the close connection between the college and the Association of Commerce is that more of the older members of the association and more of the members of its vigorous young men's department enroll in the business men's night courses of the college. There is no doubt that young business men are more likely to attend the courses of a college of commerce which is associated in their minds with the commercial organization of the older business men and has, therefore, an atmosphere of the right sort.

The public weekly informal Friday night talks of the college of commerce are plain business talks by business men on business subjects. They are short; they are informal; they are always followed by questioning and discussion; and they are largely attended by business men. One welcome result of these informal Friday night talks is that they bring the college to the attention of a large number of business men whom it would be difficult to reach in any other way. These talks are held under the joint auspices of the college and the Association of Commerce, with the result that we are developing in New Orleans, instead of occasional business talks at irregular intervals and at unexpected places, one strong business forum, to the success of which the Association of Commerce and its young men's branch, the college of commerce, and the business community generally unitedly contribute.

So much as to the cooperation of the Association of Commerce; let us turn to the cooperation of the individual citizens and business men. At the outset 104 of them combined to guarantee the expenses of the college. But the college needed from these business men their personal service as well as their money, and the danger was, as I have said, that they would feel that their responsibility, the need of their understanding of the work, and their possibilities of helpfulness to the college all ended with their signing of the guaranty.

One of the wisest and most far-reaching steps in the permanent coordination of all the groups interested in providing training preparing for a business career was the action of the board of administrators of Tulane University in requesting the members of this board of guarantors to elect officers and an executive committee and form a permanent organization, in order to make it possible to confer with them in regard to matters affecting the success of the college.

Not only do the officers and executive committee meet monthly to hear detailed reports of the work of the college and to lay plans for its future growth, but individually they and the other members of this board of guarantors stand ready to contribute their thought and time unselfishly, in all sorts of ways, to extend the usefulness of the college.

The professors of the college of commerce are in close association with the members of this board of guarantors and turn to them constantly for the results of their practical experience and for assistance and advice, and it is a great advantage to the teacher (and to his students) to be able to consult freely with business men who already are interested in helping the college and understand its work.

To cite one other evidence of their spirit, these business men guarantors soon realized that a main reason why more young men already in business were not attending our night classes was because their employers, in many cases, did not show them that they recognized the value of the work. The guarantors understood that if this business training is valuable for the students whom we had, it is equally valuable for ten times as many more. Consequently, they have set to work to talk with these employers, with the result that more and more the heads of our business houses and banks are advising their employees to attend the night classes, and frequently are offering to pay part or all of their tuition fees.

REED COLLEGE AND ITS COMMUNITY.

By WILLIAM T. FOSTER, LL. D.,

President of Reed College, Portland, Oreg.

Reed College is a small college, only four years old. It has started out in new fields. Its work is, therefore, largely tentative; the most it has to present is a suggestion here and there, and large hopes for the future.

For the instruction of college students who are later to take their places as citizens, indifferent or energetic, our methods should be those which, at the same time, will educate the adult population with respect to civic duties. A few such methods have been tried at Reed College.

We take our students in economics, government, education, psychology, and sociology out into the city, after their introductory courses in these fields, to find out what is actually going on in the laboratories of the city, in the health department, in the purchasing agent's office, in the police, fire, and finance departments, in the city employment agency, the tax bureau, the schools, and so on. The students have individual problems of investigation to carry on under the guidance of members of the faculty and at times with the faculty.

Much of the information thus assembled concerning the form and operation of the government of the city of Portland we arranged in a series of lectures, and the class in statistics, as laboratory work, endeavored to find means of graphically presenting the facts so as to make their meaning unmistakable and of interest to large numbers of citizens.

We thus got together about five hundred illustrations for a series of six lectures on "The Voter and His City." We then proceeded to try them on the voters. At the conclusion of each lecture we conducted discussions, partly to find out whether the lecture was understood, what pertinent questions remained unanswered, and how the practical value of the course might be increased. Our endeavor was, you see, to get before as many voters as possible nonpartisan, accurate, up-to-date, interesting, and immediately usable information about every aspect of the city government. Thus, for example, we explained how the new preferential voting system works, to what extent the city purchasing department saves money, the need of a campaign against the smoke nuisance, some of the mysteries of budget making, some of the wastes of the city administration, housing conditions, defects of the housing code, and the need of playground supervision. We treated 40 other topics without gloves, our sole purpose being to get information before the people.

When anybody objected to any statement, we asked, "Is it true?" If he could show that it was not true, we changed it; but, as a rule, the objection was merely that to make known these facts caused trouble. We replied that it is the business of a college to cause this kind of trouble.

It is gratifying to us that some unpleasant things which were true when we started that series of lectures are not true to-day. We had to change the lectures from time to time.

We have given the series in 15 different places, with a total attendance thus far of 3,740. Not only did our undergraduates prepare material for the lectures, but two students presented the course to all the classes in civil government in all the public schools in the city.

One of our faculty helped to organize and presided at the first meeting of a nonpartisan committee of 100 citizens, which recom-

mended to the voters the men who were elected commissioners under the new city charter. That was the beginning of our cooperation with city officers. Our students and our faculty have been prominent in the movement for woman suffrage and for the extension of popular government; and a large number of our students, at least half of them, I think, and at least half of our faculty, were prominent in the campaign for the prohibition of the liquor traffic. Regardless of the merits of the question, this is indicative of what an institution can do if it is free from entangling alliances, independent of votes of city or State officers, and unhampered by traditional ideas of what a college should not do.

The mayor called upon the college to take charge of an investigation of public amusements in Portland. The students and faculty, with the aid of 40 other men and women, investigated the motion-picture and vaudeville houses of the city and published the results. Their recommendations were used in making new laws on the subject in various cities.

The college aided in the organization of the Oregon Civic League. One of our faculty was its first president. The college also works with the new Chamber of Commerce, an organization of 3,500 men. One of the faculty is in charge of the committee on city planning and the committee on city schools. Another professor is aiding the chamber in an industrial survey of Oregon. The college and the chamber of commerce work together with mutual advantage. The same is true of all the libraries. Every one of them is as valuable a part of the Reed College equipment as if it were on our own campus.

In four years the number of individual attendants at extension-course lectures has increased from 3,000 to 15,000.

Our campus itself and our gymnasium and athletic field are put under the direction of the city department of parks and playgrounds as a free municipal playground all summer.

Another illustration of field work for the welfare of citizens and for the training of students who may at some time hold public office is in the field of social hygiene. In cooperation with a large number of citizens, students and faculty members conduct lectures and conferences and carry on a State-wide campaign. One of our faculty is president of the organization in charge of the work; one of our students is the executive secretary. We conducted an extension course for the preparation of workers in this field which was attended by 120 men and women. We published 705,000 circulars on 20 subjects. Besides giving lectures in 70 towns and cities, we prepared an exhibit which we have sent about the States and have shown to 113,000 people. We have maintained an advisory

department, with a physician in charge. He has corresponded with 1,400 people in special need, and at his office 3,600 have called for help. We have obtained the cooperation of 57 business houses in the city which have been sufficiently impressed with the value of this service to give their employees company time in order that they might profit by our instruction.

Another branch of this work was the campaign against fake doctors and medical concerns, whose sole object is to get money from people whether they are diseased or not. Our first object was to cut off their means of circulating false information. This we did through the elimination of all such advertisements from the State of Oregon. It meant a great loss of revenue to the newspapers, yet they gave us their unqualified support.

Field work is necessary for students themselves; it gives them vital contact with the community; it is not purely academic. Second, it is necessary for the faculty, in order that they will not become "typical college professors." The traditional professor is said to be academic, impractical, uninteresting, completely lost when thrown into close contact with human beings outside the classroom or laboratory. He needs to know more of the world in order that his instruction may become vitalized.

Finally, such field work is necessary for the curriculum. There is something flabby, indeed almost immoral, about the teaching of ethics and sociology and government which issues into no grappling with immediate needs. Both teachers and students should appreciate actual conditions and should have immediate opportunity to act in response to emotions which they experience as a result of investigation or instruction.

It is partly because students have not had this vital training in college days that so many of them appear after graduation indifferent to the duties of a citizen. Often you can get better support for a program of municipal betterment from people who have not had a university education. That is a serious fact. The gentleman from Pittsburgh has rightly said that we must begin from the bottom with a new sort of education. We must offer new opportunities and create a new sense of civic responsibility in our schools and colleges if we are to create an effective demand for trained, devoted, and honest public servants in every branch of municipal affairs. Meantime, we must continue to strive for vital and continuous cooperation between the university and the municipality.

**RESULTS OF COOPERATIVE TRAINING FOR PUBLIC SERVICE AT THE
COLLEGE OF THE CITY OF NEW YORK.**

By **SIDNEY EDWARD MEZES,**

President of the College of the City of New York.

We give cooperative instruction not only in order to train men to enter the service of the city, but also to improve the efficiency of those already in the service; we attempt to carry out investigations of a scientific character which will give dependable results, upon which city officials, and, incidentally, business men, may rely in conducting the enterprises in their charge; and our more experienced men are available as members of boards, commissions, and committees which are deliberating concerning the best method of conducting large undertakings.

Our college of arts and sciences is conducted both by day and by night. The standards of admission and graduation for day session and evening session are the same. We also have teachers' extension courses to give professional and cultural work to those in the city school system. Then there is a division of vocational subjects and civic administration, offering courses primarily for city employees in the college buildings and in the Municipal Building during afternoon and evening hours.

In the regular college course the cooperative work that comes first to mind is that connected with the chemistry department. The central testing laboratory of the city sends officially tested samples of materials which are to be purchased by the city to our instructor in municipal chemistry. He has his class perform the tests and checks their results by the official report. Students in this course are taken on inspection and observation trips to the city's laboratory, and they receive lectures from time to time from the directors of the laboratory and other municipal experts. There is a similar cooperative arrangement for courses in food inspection and analysis and municipal sanitation. Students preparing to enter the city education system as teachers in the grammar or high schools do practice teaching or pupil-teaching service in the system. These examples will show the general way in which undergraduates of the college are benefited by cooperation with city departments.

Now we turn to instruction of those already in the service. The largest single group of city employees improved by the college are the teachers, and in connection with courses provided for them it has been found necessary, in view of the large size and the generous spread of the City of New York, to have instruction not merely at the seat of the institution, but also at other centers in Manhattan and the other four boroughs of the city.

There are in attendance upon these particular courses which train or improve the training of the teachers in the public schools of the

city at present over 5,000 teachers, and we think that is a service well worth rendering. The personnel of this student body changes from year to year, and it is safe to say that at a given time we have enough teachers in the service who have received our instruction to have contact, indirectly, with over 1,000,000 children, and we are to that extent helping those 1,000,000 children.

City employees in all of the other departments and those in the service of the State and Nation have the resources of the college placed at their disposal in a rather novel way. By virtue of their positions they are admitted to any course offered in the college which they are qualified to pursue. The general entrance requirements are waived. While such students are not candidates for degrees, they nevertheless receive much help from the courses. The effect of admitting these mature students with very definite and practical reasons for taking up studies has been most beneficial. In some cases the rather formal academic methods were modified and fresh ability and a new point of view were brought to the courses.

Special extra-curricula courses to meet the vocational needs of men in certain city departments were also established. There is the course in technical electricity, of especial interest to men in the department of water supply, gas, and electricity, and water-supply engineering for those in the same department or the board of water supply. Some of such special courses, as well as sections from the regular courses of study, were established in the Municipal Building, the governmental center of the City of New York. In giving these courses New York University cooperates with us. They are designed to meet the needs of three classes of employees.

First, there are those who are interested or occupied in engineering enterprises. New York City, like every large city, has a great deal of engineering work to do, and courses such as water-supply engineering, construction inspection, reinforced concrete construction, electrical engineering, draftsmanship of all kinds, engineering design, theory of stresses, and any matters of that general kind enable employees in engineering departments of the city government to become more efficient in doing their work and in serving the city. Then there is a large clerical business force engaged in the city, and members of it who wish appropriate instruction may take up English, accounting, economics, government, and allied studies. Those who are engaged in the great social services have courses in philanthropy, sociology, and various aspects of social work. Of course a great many of them have come into the service with a technical and legal rather than a broad social understanding and training for the work which they are to do. The courses tend to broaden them and render them more liberal and sympathetic in their dealings with the people.

There is also a certain number of elementary courses in the languages—Italian, for instance, and Spanish, and German, and Yiddish. The reason for giving these language courses to city employees is that many are inspectors employed to deal with the large foreign population of New York City. These courses make possible a means of communication between recent immigrants and the inspectors. We now instruct 270 city employees in the Municipal Building and over 300 in the main college buildings. This group of 600, together with the 5,000 teachers, makes a very respectable body of municipal students. And the body will grow.

We turn to an activity in another direction—namely, cooperation with business men. The evening session, as would be expected, is largely attended by business men, and these comprise engineers, lawyers, doctors, as well as men working in banks, in business establishments in stores—all sorts and conditions of men who are actually engaged or employed during the daytime. But the course which has just been instituted and which is intended for them specifically, and which is being carried on in the customs house with the cooperation of business men, is one on foreign markets. In a large exporting center like New York, obviously this is a very important thing. Certain business associations are cooperating with that course. They have joined together and have formed an advisory committee to aid the instructor in charge of the course. The course has to deal very practically with the subject of foreign markets.

The college also benefits persons employed by the city in laboratories. A few of them are given instruction so as to improve their technique in the matter of testing the city's supplies. They are as yet but a handful, but the course is prophetic, because it indicates that later on other men who may be engaged in this work for the city will not be asked to come out to the institution itself, but will have competent teachers come to them in their offices and workshops to give them the instruction necessary to increase their value to the city.

Another form of scientific cooperation is found in the psychological laboratory, or educational clinic. There are in all school systems children who do not get on. They are backward, or deficient, or unruly, and it is necessary that they be submitted to a very careful test to determine what is the matter with them. Of these children quite a number have to be dealt with by the courts of the city under certain circumstances, and the first thing to determine is whether they are responsible or irresponsible. For this purpose they are sent to our educational clinic to be examined mentally. If they are irresponsible they are sent to certain custodial institutions. If they are still irresponsible they are sent to truant schools. Obviously the number of examinations is great. For two or three days

in the week there is a steady stream of children going through the clinic and being carefully tested, and the cases are handled by experts who determine how best each child shall be treated. Incidentally much scientific information is gathered which is helpful to the schools of the city in dealing with their scholars.

There is also a survey which has been undertaken with a view of studying and deciding what kinds of further training are needed by the different groups of city employees. The city departments are cooperating most helpfully with the authorities of the college, and a small sum to finance this investigation has been appropriated. The departments of the city have been visited, with the cooperation of the heads of these departments, in order to find out just how the various employees of the city can be aided to become more efficient and give more to the city in return for the money that the city pays them. It is partly as a result of this that some of the courses I have mentioned have been already decided upon. We have, furthermore, a continuing investigation by men who are employed to keep these courses in touch with the needs as they ascertain these needs progressively of the various groups of city employees, so that courses and types of training will never be much out of touch with real, existing needs.

Finally, our men have served on such commissions, for instance, as that on occupational disease. The board of health is constantly in cooperation with and is receiving advice from our men in chemistry, from our men in biology, and from our men in hygiene.

There was an investigation of mental deficiency and as to the best method of caring for the 1,750 defectives on Randalls Island, whose care has not been carried on, as was generally thought, quite as well as it might have been. One of the professors of the City College was on that commission. As a result of its recommendations some \$600,000 was appropriated by the State to insure better attention to these unfortunates and to improve their surroundings.

Another board on which the college is represented is that which has charge of the factory inspection undertaken by the City of New York. All the factories were inspected to discover conditions existing in them, the nature of employment, and various problems of that kind. A report was published, which has been very helpful to us, and which will doubtless be helpful in other places.

Now, this very brief and very dry account will possibly give some notion of the types of cooperation under way. Only a beginning has been made. We do not go, for instance, as far as your local university goes in a number of directions. We do not go as far as we should in the training of many different groups of city employees. The city employee in New York has to come in contact with

very aggravated social conditions, and to try to better the environment of people who live in congested districts, in the way of housing facilities, sanitation, living facilities, food, and various other details of environment, all these men must be trained; they need the social spirit, a larger altruism, and a keener appreciation of neighborliness, and of civic obligation.

Moreover, a city government is only as good as public opinion will allow it to be. If the general mass or run of the citizens are not men with considerable information, with a large public spirit, with a vision of the future, with some notion of the significance of the latter-day municipal spirit, the government of the city can not be expected to rise very high above those people whom it governs.

So there is a large responsibility on the part of urban universities for disseminating information, for giving inspiration, for broadening the views, and lengthening the vision of the whole population, all of which can be done, and will be done more and more, as time goes on, by municipal institutions.

COOPERATIVE TRAINING FOR PUBLIC SERVICE IN NEW YORK CITY.

By HENRY MOSKOWITZ,

President of the Civil Service Commission, New York City.

The Municipal Civil Service Commission is deeply interested in recruiting trained public servants for the government of the city. It makes a considerable difference in the type of candidate if he has been trained in a cram school or in an institution with high educational ideals. When one considers such a service as the city of New York, with its 55,570 classified employees under the jurisdiction of the commission, with 21,631 applicants for positions in the competitive service in the past nine months, small wonder that a large number of schools have grown up under private auspices which prepare these candidates and which do a flourishing business. Some of these schools have high standards, but many are animated purely by business considerations and can be characterized as cram-factories. That many thrive is an indictment against our public educational system. If public schools and particularly high schools and colleges were alive to their responsibility they would, without sacrificing their educational ideals, equip public servants by supplying them with the necessary training for positions. These private schools meet a need which the public institutions have until very recently neglected.

But the civil-service problem is not restricted to examination of candidates before they enter the service. A vast and neglected field of civil-service administration relates to the galvanizing of the serv-

ice after an employee has entered it. The civil-service law of the State of New York, which provides for promotion examinations wherever practicable, is typical of nearly every civil-service law in the country. This provision is necessary to insure that dignified and honorable career in the public service of which President Eliot has spoken. It is necessary to offer to those in the service a goal for their ambitions, a step-by-step advancement which means not only increased salaries but increased responsibilities, after an employee has demonstrated both by his record and by his examination that he has qualified for them. It is therefore proper that training for the public service should meet not only the needs of the city for original entrance but for promotion as well.

New York City, recognizing this need, has cooperated with New York University and the College of the City of New York in a scheme of offering courses to city employees at a very nominal fee, which aim to equip them for the higher positions. They consist not only of general theoretical training, but of practical work based upon the duties of the various positions. Many of them are given in the Municipal Building. The government of the city has set apart certain rooms in the building for lecture purposes. Fifty-one such courses have been offered. They cover a very large field, from engineering English to philanthropy, the higher mathematics, such as algebra, plane geometry, solid geometry, trigonometry for engineering, engineering drawing, elementary surveying, advanced surveying, mechanics, nomographic charting, elementary structural detailing, elementary steel design, advanced structural design, masonry design and construction, reinforced concrete design and construction, materials of construction and construction inspection, production and use of engineering materials, water-supply engineering, sewerage and sewage disposal, highway engineering, engineering estimates and costs, engineering features of municipal contracts, technical electricity in laboratory Saturday afternoons, and advanced electricity. These courses are obviously designed to train employees in the engineering service. Some of the courses for those engaged in secretarial duties are as follows: English composition, advanced English composition, secretarial duties, advanced stenography, and stenotype. The accounting service is a very important one in our complex municipal government. Therefore, courses are offered in statistics, bookkeeping practice, principles of accounting, accounting practice, fund accounting, expenditure and revenue accounting, and cost accounting. There is also a course in the government of the city of New York and in the municipal functions of the city. There are courses in public speaking, Italian, French, German, Yiddish, German reports, economics, municipal sociology and philanthropy.

The fees are nominal. The lowest is \$5 and the highest is \$20. Where the greatest sum is asked, not less than 60 hours and up to 150 are given. The courses were carefully thought out. In the language of the mayor, "The courses were carefully considered not only by the committee in charge but by the advisory committees, consisting of those technically qualified to suggest desirable lines of instruction in engineering and clerical subjects." The mayor requested his department heads to call the attention of employees to these courses and to seek their cooperation. Last year a few courses were given and have proved successful, and this year the elaborate plan outlined by a committee of commissioners and educational experts will be carried out if a sufficient number of employees are interested.

This is a significant scheme for public training. It is significant from the educational point of view because it is a practical application of the pregnant truth that education is a preparation for life. While the foundations for education are laid in the elementary school and the educators may differ as to vocational training even in the high schools, no progressive educators to-day reject the conception that the colleges and the universities must train for a life career. The life-career motive in education is beginning to receive the adequate consideration it deserves. The vocational motive in education has sometimes been interpreted in terms of manual training or of trade education, but if it is expressed in terms of a life work then the vocational conception of education assumes a richer meaning. The life-career motive gives to education a definiteness of end which very materially affects the methods of education.

But there is an added reason for a life-career motive in education to-day, because industrialism, and its child, the modern industrial city, exacts specialization. So great is the need of specialization to-day that many of the vocations have become highly specialized. Specialization makes for efficiency and for that perfection of service in the narrow field which is deemed essential. We need trained specialists in the public service and, assuming a broad educational foundation, these specialists should be trained early enough to prevent waste of energy and to take cognizance of the economic needs of the students. This consideration is especially important for urban universities. A university or a college which is supported by the city attracts students from the middle classes, many of whom come from the homes of artisans and workpeople. The student body of the College of the City of New York, for example, does not consist of scions of the rich, but of young men who are sent there by their parents at great sacrifice. These young men can not afford to indulge in a purely liberal education too long. They must

see some vocational goal in view. The College of the City of New York has trained many teachers who are now serving in the public schools of the city. If the college did not provide this life-career motive for a great many of the students, some of the very best graduates would not have been able to enjoy the privileges of the college. The practical courses which the college is giving will enable more students to prepare themselves for other careers than teachers. The city will be able to recruit many of these highly intelligent and serious-minded students who will be able to start a life career by earning enough as a result of their college education. They can not afford to indulge themselves in the luxury of a social college career; they are compelled to be earnest by their economic necessities. Therefore, it is peculiarly fitting that the urban universities and colleges supported by the people should offer the students an opportunity for sound theoretical and practical training. The urban universities, therefore, have an opportunity for training leaders in democracy; they can attract the serious bodies of students who can not afford to pay even the small tuition of an average private institution. They live near their schools and are thus relieved of the added expense of board and lodging. Many of the more gifted young men from the poor classes are thus enabled to take advantage of a college education.

The urban universities become in the truest sense of that term training colleges for leaders in a democracy, for they offer equal opportunities to the gifted sons of the people to equip themselves for such leadership. There is a growing need for trained public servants in the Government, for the modern industrial city has created a condition of interdependence which makes the individual dependent upon the action of the State for many of the most essential conditions of living. The industrial city is an organic fact which has led to an organic conception of life. Imagine the helplessness of a tenement dweller if a city government did not have a division of food inspection to inspect the milk which he buys, or a tenement department to inspect the sanitary conditions of the houses he must live in. These essential conditions of life can only be socially controlled; therefore, government has become more and more socialized, as a result of which the city government and city departments have expanded their functions and have become a positive instrument for social welfare. The city now provides for many of the social conditions of life which were heretofore the concern of private individuals or private groups. The city, therefore, needs trained social servants.

A progressive government like the city of New York requires social investigators in the charity departments, playground attendants in the park department, probation officers in the courts, attend-

ance officers in the schools, tenements inspectors in the tenement house department, etc. Therefore, with the growing socializing of government new opportunities are offered for trained public servants and the urban universities are equipped both in plant, in their teaching staff, and in the education ideals which animate them to provide such trained public servants. They are the natural cooperators with city departments for apprenticeship during their educational training. The city university becomes the symbol of our modern civilization.

V. SUPPLEMENTARY REPORTS OF TYPICAL URBAN UNIVERSITIES.

Some of the charter members filed reports of their cooperative work last year and these reports were printed in Bulletin, 1915, No. 38. New members and those who were not represented the last time were invited to send accounts of their work for this publication. Opportunity was also given for a modification of the first descriptions, to bring them up to date. The following are the responses received.

MUNICIPAL UNIVERSITY OF AKRON.

By PARKE R. KOLBE, President.

The report of last year may be supplemented with the statement that we are further developing various forms of cooperation with the city departments.

The city's testing work is carried on entirely in the laboratories of the university, under the direction of a department called the bureau of city tests. Here is done the chemical testing of supplies purchased by various departments, bacteriological testing for the board of health and local physicians, and physical testing of paving brick, cement, etc.

The department of political science and sociology is cooperating with the board of health and the charity organization society in using students as workers and investigators in the city; also with the bureau of municipal research in the study of city departments. One of the fields now in prospect is that of training for public service. It is hoped eventually to establish a cooperative course for this purpose in connection with the department of political science, the engineering college, and the bureau of municipal research.

A step in advance has been taken by the establishment of a combination course in cooperation with the board of education, between the university and the city normal school for the training of teachers. Graduates of this course will receive preference in appointment to positions in the city school system.

Akron, being the center of the rubber industry, offers opportunity for specialization in the chemistry of rubber at the municipal university, which possesses the only fully equipped college laboratory for this purpose in the country.

The college of engineering is cooperating with nearly a dozen factories of the city where its students work in alternating two-week periods, also with various contracting firms and railroads. The college has also been active in the investigation of paving conditions in the city and has published a detailed report on the subject at the request of the city council.

Extension work is being carried on by means of a course of lectures offered by the university faculty to a number of clubs and organizations in the city. Late afternoon and evening classes have recently been organized and offer the opportunity for college work to teachers, employed persons, and citizens in general.

BROWN UNIVERSITY, PROVIDENCE, R. I.

By JAMES Q. DEALEY.

Professor of Social and Political Science.

Brown University is a private institution and derives no part of its income from municipal or State appropriations. Aside from the Rhode Island State College, at Kingston, there is no other institution of higher training in Rhode Island. The university, having a history of 150 years, has profoundly affected the State through its many alumni prominent in economic and civic life and through the natural influence exerted during these years by the members of its faculty on the community.

Within the past 25 years the university has to some extent laid stress on the policy of direct community service, and has slowly built up a series of connections between the institution and the city and State. At first this activity took the form of extension lectures given anywhere within the State; at present these are offered at special times on the campus, primarily to teachers, but in fact to all who care to register.

For 20 years a close connection has existed between the education department of the university and the public-school system. Students trained in educational courses are welcomed as visitors to classes

in the public schools, and selected persons are chosen to serve as "pupil teachers" on half-time service with pay while completing courses for the master's degree. A limited number of recommended students who are preparing to become teachers may, by special arrangement, receive at State expense tuition scholarships while they are candidates for advanced degrees. In addition may be mentioned an annual meeting on the campus of a teachers' association made up chiefly of those in the State or vicinity who are interested in the problems arising from the relations of the university to secondary education.

Through the department of social science, students are brought in contact with the various philanthropic agencies of Providence and assist in their work or in making special surveys of social conditions. These surveys regularly have in mind some concrete practical problem, and have been helpful in formulating plans for social betterment. In political science, students have acquired practical knowledge in two ways: (1) Classes have been organized into conventions for the purpose of preparing a city charter or a State constitution, and (2) picked students have cooperated with the State legislative reference bureau in the study of current legislation or with city departments in respect to municipal questions. The economic department in a similar way uses its students in the investigation of local and State civic economic studies. The department of biblical literature cooperates with religious agencies for the better training of Sunday-school teachers, in maintaining lecture courses on biblical topics, and by offering courses aiming to prepare for churches social workers and educational directors.

A great field of cooperation exists between the city and State and the several departments of science. The department of biology studies the conditions of the State shellfish industries and fisheries, so as to conserve and build up these important sources of food supply. Its study in respect to the rearing of young lobsters, for example, has built up the Nation's supply of this important source of food. Through its bacteriological experts, also, it is in close touch with the health and milk departments in the State. The botanical department is in close touch with the botanical work of the public schools. The National Government has a forestry laboratory on the campus, so that an interest is developed in civic demands for information regarding shade trees, tree surgery, and reforestation, and departmental studies of the diseases of trees are done under the direction of the division of forest pathology of the United States Department of Agriculture. The geological department assists in studies of soil and geologic surveys, and its head is chairman of a State commission on the conservation of natural resources. The astronomic department furnishes official time to the entire city and at frequent stated

intervals entertains at the observatory classes from the public schools. The engineering departments, electric, mechanical, and civil, maintain intimate relations of cooperation with kindred activities in city and State, and frequent conferences are held on the campus and addresses given to students in these branches by practical engineers. There are many other forms of cooperation that might be emphasized, such as the cooperation of the art department with the Rhode Island School of Design; the department of chemistry with the State college and with the textile industries of the State, or the many ways in which organizations of students cooperate with similar organizations in the city or State.

As already indicated, most of this activity has developed within the last 25 years. The amount of it is steadily increasing, as mutual needs arise and a cooperative interest develops. This growth in the cooperative spirit has come about almost unconsciously under the spirit of the times, and illustrates the inevitability of mutual relationships between a university with a civic spirit and a growing community in need of expert information and suggestion. Last spring this relationship was recognized by the appointment by the faculty, at the suggestion of President Faunce, of a committee on the relations of Brown University to the community. It is expected that this committee will systematize, unify, and enlarge the extramural work of the university so as to make it more effective.

UNIVERSITY OF DENVER, DENVER, COLO.

By GEORGE A. WARFIELD,

Dean of the School of Commerce.

Because of unusually close relations with the intellectual, social, and business life of the city the University of Denver is referred to as Denver's Municipal University.

The extension college serves especially the teachers of the public schools. Dr. Daniel E. Phillips taught the first class 18 years ago. The next year he had a faculty of three. Now a corps of a dozen or more teachers hold classes on Saturdays and on such afternoons and evenings as suit the largest number of students. This work is not confined to teachers, but business men and women, pastors, and serious-minded people of all occupations, attend in large numbers. More than 1,000 different teachers have attended these classes; 150 are now enrolled. Every school in the city has been strengthened and enriched.

All the professional colleges are closely allied with the professional men of the city. The Colorado College of Dental Surgery is one of the strongest institutions of its kind in the West. Its dental

infirmary is completely equipped and always open for the use of the public. More than 12,000 patients are treated each year.

The school of commerce, accounts, and finance gives college instruction in commercial and financial subjects. Evening classes meet from 5.40 to 7.40, in the heart of the city. There is scarcely a large business office in Denver that is not represented by students. No department of the institution has a more direct influence upon the industrial and business life of Denver. The accountancy dispensary, established in 1914, has done much practical work free of charge for charitable, philanthropic, and religious societies of the city. Members of the faculty of the school of commerce do much extension work for business men and women. Courses are given in English, economics, money and banking, financial history of the United States, and business problems. One class of 200 pupils in the local factory of the Ford Motor Co. is studying the psychology of business under the instruction of a member of the faculty. For several years the classes conducted by the American Institute of Banking have been under the instruction of members of the school of commerce faculty. These courses have included business law, economics, finance, American financial history, foreign and domestic exchange, and the operation of the Federal Reserve Act.

The department of sociology has close relationship with the social and charitable agencies of Denver. Students are encouraged to work in settlements, make surveys and investigations, conduct classes and clubs. A special school for the Americanization of adult foreigners is being conducted under the supervision of the department. In cooperation with other social workers of Colorado, a summer school of civics and philanthropy was organized for the special benefit of charity workers and city employees. At the request of the city federation of charity this work is to be continued during the next school year.

The department of physical education has had notable success in cooperation with the city playground association. The university furnished an unusually choice corps of young men and women, well trained and competent, to supervise the parks and playgrounds of Denver.

THE UNIVERSITY OF MINNESOTA.

By JEREMIAH S. YOUNG,

Professor of Political Science.

The University of Minnesota is supported and controlled by the State. Most of the colleges are located in Minneapolis, but the college of agriculture is located in a suburb of St. Paul. The two plants are 3 miles apart, with an intercampus trolley connection. There is a population of more than half a million people within 20 miles of

the university. This fact emphasizes the urban location of the institution.

In the college of science, literature, and the arts, the department of sociology has courses of lectures this year by three representatives of charities and social-settlement organizations. The department also sends a number of students for field work in connection with the University Hospital service. Messrs. Crosgrave and James, under the direction of Prof. John H. Gray, head of the department of economics, are conducting surveys in connection with the civic and commerce association along the lines of unemployment.

The school of chemistry reports work in illuminating gas and water analysis. Indeed, the gas department of Minneapolis was organized very largely by men in the school of chemistry. A considerable amount of work along the line of testing paving material is being done. The dean of the school entertains the hope that the chemistry laboratory will be a place where all technical control work can be done and where all disputes along industrial chemical lines between the city and the contractor may be settled.

The activities of the graduate school are numerous. In 1913, when Prof. W. A. Schaper, of the department of political science, was a member of the commission to prepare a draft of a charter for Minneapolis, he made a direct study on the ground of some important experiments in commission form of government, his expenses being paid from the research funds. This enabled him to put at the disposal of the city charter commission the results of his investigation. The past year this same fund has been used to the extent of about \$800 to aid in a vocational survey of the city of Minneapolis. This survey was undertaken primarily by Prof. Prosser, head of the Dunwoody Institute. This was a genuine piece of cooperative work, the university representative investigating commercial education in Minneapolis. Mr. Gesell's monograph on Minnesota public utility rates was published from the research funds. Certain studies are of municipal interest, such as Mr. Lampson's "The Spread of Tuberculosis in Families," William Anderson's "The Work of Public Service Commissions," and Prof. Weld's "Studies in Marketing and Farm Products." This last study deals with such subjects as city markets, live-stock markets of South St. Paul, milk distribution in Minneapolis and St. Paul, and food-supply prices in the iron-range cities. In this connection should be mentioned the publications of Messrs. McMillan and Shoop on "Concrete as a Structural Material."

The college of education carries on extension and correspondence courses, and enjoys the privilege of practice work in the city schools, together with cooperative research with the city teachers. In this connection it should be noted that something like 115 courses of

special interest to city teachers are offered at convenient hours, afternoons and Saturdays, with the local teachers especially in mind.

Many of the professors in the college of engineering render service for the city. Dean Shenehon is a member of the civic and commerce association committee on river development. Mr. Edward P. Burch is chairman of the committee on the high dam. Prof. Bass has been on the committee of public health. Prof. Cutler has been a member of the committee on abatement of railway noises, while many members of the faculty serve the city in technical civil-service examinations for city appointments. The college of engineering is raising the standard of the subordinates in many offices of architects, of workers in numerous industrial establishments, and in the offices of many practicing engineers.

The law school is engaged in a most interesting example of co-operation between the university law faculty and the associated charities of Minneapolis. This cooperation is concerned with the legal-aid bureau. The work is directed by a committee consisting of the president of the associated charities, the city attorney, and the dean of the university law school. This committee appoints a graduate of the law school at a stated annual salary. He acts as the attorney for the bureau and is also an instructor in practice in the law school. Two members of the senior class of the law school are assigned each week the duty of being present in the office of the legal-aid bureau from 1 to 6 p. m. each day. The students thus assigned are required to talk with clients as they come into the office and endeavor to determine in such conference the facts and the rights of the case and then report in writing to the attorney of the bureau, giving him the advice they think necessary in the circumstances. The attorney confirms or modifies the proposed advice. It usually happens that it is possible to settle these cases outside of court, but if no satisfactory settlement can be made, the student reporting the case will prepare, under the guidance of the bureau attorney, to institute such proceedings as may be necessary to secure the rights denied his client. At least once during each week one or more of the members of the law faculty visit the office of the legal-aid bureau and supervise the work. At the end of each week the attorney of the bureau makes a report of the two students to the law faculty. From April 15 to December 31, 1913, this bureau handled 1,039 cases and made collection of petty claims amounting to \$4,184.95. From April to November, 1915, 2,554 cases were handled and \$5,255.60 collected. This is a distinct piece of cooperation between the university and the city.

The university maintains two extension departments, one at the agricultural college, whose activities are confined to the rural parts

of the State, and the other, the general extension division on the main campus, the bulk of whose work is done in Minneapolis and St. Paul through the evening extension classes. The work of the general extension division falls under three main heads: College courses, business courses, and engineering courses. The registration in 1914-15 was as follows:

Registration in the general extension division, 1914-15.

Courses.	Minneapolis.	St. Paul.
Collegiate courses.....	861	218
Business courses.....	1,031	426
Engineering courses.....	311	16

These classes are conducted not only on the university campus, but also in the City Hall, the Public Library, and some of the school-houses. In St. Paul the work is done in cooperation with the St. Paul Institute. In addition to the classes conducted in the Twin Cities, the general extension division conducts classes in Duluth, St. Cloud, Winona, Albert Lea, Austin, and Northfield. The total registration of the towns above mentioned for the year was 3,350, or 2,508 different individuals. So far as possible, the general extension division has avoided duplicating the night-class work of the public schools, the Y. M. C. A., the Dunwoody Institute, and the St. Paul Institute. These institutions give elementary work for the most part, while the extension division gives the more advanced work, the effort being made to confine it to work of college grade. In addition to the class work, the division has been sponsor for courses of lectures in the Twin Cities. One notable series was that dealing with the European war and was given in the Central High School. Other lectures have been furnished for clubs, societies, and even for ward organizations. Another form of activity is through the league of Minnesota municipalities and the municipal reference bureau. During the year ending August 1, 1915, 80 villages and cities sent specific inquiries to the general extension division. In addition to this, there were over 200 letters of inquiry received from outside the State. The municipal reference bureau compiles statistics, makes researches, and furnishes information of all kinds to city officials. Moreover, it draws up model ordinances and makes itself useful in every way possible to officers of these municipalities.

The medical college renders a distinct public service through the hospital and dispensary. It is hoped to develop a closer working relation with the city hospitals.

The college of agriculture carries on many activities that, intended primarily for the rural population, still have a fairly direct bearing

upon urban life. The university aids the civil-service commission of Minneapolis in many ways, not only in planning examinations and improving the methods of rating papers, but in gratuitously placing at the disposal of the commission the use of the gymnasium for examinations for firemen, the blacksmith shop at the university farm for the examinations for blacksmiths, the dairy laboratory for the examination of milk inspectors, and the use of the university equipment for examinations for various architectural and drafting positions.

This brief survey shows that the university conducts many differentiated lines of activity because of its urban location.

SYRACUSE UNIVERSITY, SYRACUSE, N. Y.

By ROSS JEWELL, Registrar.

In recognition of contributions toward campus improvement amounting to \$20,000, the privileges of the 100-acre campus, with its notable rose garden, has been extended to the people of Syracuse. The music department gives free monthly recitals, the painting department two free exhibitions annually, and the medical college has a course in public health. The hospital has 150 beds, and a free dispensary has just been built. The professors of the several colleges speak before many city audiences, and expert services are frequently rendered gratis. The Young Women's Christian Association does city extension work, and 25 of the students have Sunday-school classes in one of the orphan homes. The university settlement is doing good work. We plan to open a night school next September.

WESTERN RESERVE UNIVERSITY.

In his last report to the trustees President Thwing enumerated the following direct services which his institution renders to the community:

In the first place, members of the faculty act as experts for public enterprises. The head of the department of biology identifies mineral and fossil specimens for those who make application, and also reports upon such matters as the rock structures underlying those portions of the city which now yield natural gas. He also assists the State biologist in investigating the Cleveland gas fields, thus saving the Government thousands of dollars which might otherwise be spent in unnecessary drilling. The head of the political science department served the city and State in like ways.

He was largely responsible for the framing and passage of the home-rule amendment of the Ohio constitution. He assisted materially in framing and getting passed a model municipal charter law in this State. Also, he advised several cities in the framing of their charter under the home-rule amendment. He was a member of the charter commission of Cleveland. He is president of the council of sociology and a member of the board of directors of the city club.

Other members of the department of political science are giving similar expert advice to various leagues and legislative bodies. The head of the department of sociology serves as vice chairman of the housing committee of the chamber of commerce. He and other members of his department act on numerous committees which are rendering effective help along sociological and philanthropic lines. The head of the department of chemistry of the college of women is serving on the filtration committee, and the head of the history department of the same college is on the executive committee of the civic league and Goodrich Social Settlement.

The department of romance languages is lending its efforts to cooperate with the Alliance Francaise in the extension of a knowledge of French outside the student body. Members of the various departments in the school of medicine are actively associated with the recent movement in the community for the study of eugenics. They also give expert advice to the authorities of the city in charge of the zoological collection concerning the care of animals. A member of the department of hygiene is city bacteriologist and also a member of the filtration commission.

The following communication, addressed to the trustees and quoted in the president's report, may be prophetic of some future development in direct service of a cooperative character:

Representing the will and wishes of 18 philanthropic organizations of Cleveland, we respectfully present the following for your consideration:

For at least 10 years there has been a growing conviction among the various public-welfare workers that there is in Cleveland a need and an opportunity for a school to teach sociological sciences. From time to time, as your president can relate to you, this need has been discussed by those interested in all kinds of welfare work, and plans for such a school have been considered. The recent increased demand for public and social service workers and the scarcity of tutored or practically trained candidates for these positions have compelled philanthropic organizations to give temporary courses of instruction that their workers might be at least partially trained; however, such courses have uniformly proven entirely inadequate, and no other result was ever expected. This condition and the constant stream of applications from high-grade, educated, and suitable, but entirely untrained persons for positions to do any and all kinds of social work have made these pleas for such a school more numerous and more emphatic.

Cleveland, with its great and varied business activities, its cosmopolitan population, and its rapid growth, is a fitting place to teach the sociologic sciences and to train in social work. No informed Clevelander will admit that any city has on the whole more advanced, varied, or active philanthropic

institutions, municipal or private, or a more efficient fabric of social organizations working for the common welfare; and it is justly so. Therefore, no city offers greater opportunity for desirable practical experience, for popular extension courses, for properly supervised survey or original research work; no city has better material to study or from which to teach. Reserve has the necessary standing and prestige to attract properly prepared students to sociologic courses carrying university credits and leading to degrees. Reserve also has the confidence and the friendship of every social institution of Cleveland; so that practical extension courses could be given in co-operation with each and all of such institutions, and opportunity given to prepare for any special field of work. Such a combination of courses, academic, practical, liberal, we believe, would constitute a school in harmony with, but in advance of, the recent trend of sociologic teaching, and one more popular because more practical and of more value to promote public welfare, than the older established conventional schools of philanthropy.

We do, therefore, respectfully and earnestly ask that you give serious consideration to the needs of and the opportunities for such a school in Cleveland, and to the organization of this school as a part of Western Reserve University.

As a result of deliberations concerning this communication, the school of applied social sciences was organized; work will begin September, 1916.

UNIVERSITIES AND PUBLIC SERVICE: A BIBLIOGRAPHY, WITH SPECIAL REFERENCE TO THE PROBLEMS, FIELD WORK, AND COMMUNITY DUTIES OF URBAN UNIVERSITIES.

By HARRY A. RIDER,

Library of Research in Government Western Reserve University.

Akron, Ohio. Municipal university. Annual catalogue, 1st, 1914.

Foundation, p. 15-16; aim, p. 16; social science courses of study in cooperation with the city, p. 84-85; College of Engineering, p. 110-111; Department of Civic Cooperation, p. 138-140.

——— Annual catalogue, 2d, 1915.

Foundation, p. 15-16; aim, p. 16; Department of Civic Cooperation, p. 141-148.

——— Ordinance accepting the offer of the trustees of Buchtel to transfer and convey the entire property, assets, and endowments of said college to the city of Akron for a municipal university. Ordinance No. 4050, approved August 25, 1913.

——— Ten reasons for the establishment of a municipal university in Akron. Aley, R. J. Function of the university. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 27-30.

The need of the university to enlarge its vision and its course of study.

American Political Science Association. Committee on practical training for public service. Preliminary report. *Also in* American Political Science Review (supplement), 8:301-356, February 1914.

Investigation into the present efforts of cooperation between university and municipality in training public servants looking toward future advancement.

——— Proposed plan for training schools for public service. 1914.

Association of Urban Universities. *See* National Association of Municipal Universities.

Atkinson, F. M. Civic university constitution and its reform. *English Review*, 15:294-305, September 1913.

Commentary on the government of civic universities in England.

Ayer, F. E. Akron pavements, a report of an investigation made by the municipal university of Akron, 1914.

An example of university service to a municipality.

Baskerville, C. College of the City of New York. *In* National Association of Municipal Universities. Proceedings, 1st, 1914. p. 64-66.

Cooperative work; municipal students; investigations; training for municipal service.

Beard, C. A. Methods of training for public service. *School and Society*, 2:904-911, December 25, 1915.

——— New York City as a political science laboratory. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 126-132. The opportunities in New York for the study of municipal government.

Beard, C. A. Problem of training for the public service. New York. Bureau of Municipal Research, 1915. p. 5-14. (Municipal Research, No. 68, December, 1915.)

Outline of difficulties in organization of training for public service with conclusions as to changes necessary.

——— Shadow and the substance. *Public Servant*, February 1916, p. 1.

States necessity of academic credit as basis for real advance in training for public service.

——— Training for efficient public service. *American Academy of Political and Social Science. Annals*, 64:215-226, March, 1916.

Benner, R. C., ed. Papers on the effect of smoke on building materials. Pittsburgh, 1913. (University of Pittsburgh. Mellon Institute of Industrial Research and School of Specific Industries. Smoke investigation bulletin, No. 6.)

Investigation as to the waste caused by smoke in Pittsburgh.

Binkerd, R. S. New educational development. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 161-162.

The interrelation of theory and practice.

Blackman, F. W. City manager a new career in public service. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 274-279.

University training for city managers; establishment of permanent public service under this plan.

Breithut, F. E. Report of the committee of the College of the City of New York on municipal service survey. New York. Bureau of Municipal Research, p. 17-51. (Municipal Research, No. 68.)

Buchner, E. F. Johns Hopkins University, Baltimore, Md. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 50-52.

Efforts of Johns Hopkins University at cooperation in the study of community problems.

Burris, W. P. Opportunity of a municipal university in relation to the city schools. *School and Society*, 1:295-300, February 27, 1915.

Interdependence of school system and university in Cincinnati.

——— Responsibility of a municipal university in relation to the city schools. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 27-33.

The service of the municipal university in training teachers.

Burritt, B. B. Occupation of college graduates. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 85-88.

The changing professions of college-trained men.

Butler, N. M. Suggestions and recommendations of the special committee on training for public service. *Public Servant*, March 1916. p. 27-30.

Carpenter, W. H. Privately endowed universities. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 169-175.

The opportunities in community service by every American university.

——— Public service of Columbia university officers. *Columbia University Quarterly*, 16:169-182, March 1914.

Report on public service of the faculty of Columbia University.

Chamberlain, J. P. Training for public service. *Survey*, 33:201-202, November 21, 1914.

A letter regarding training for public service as outlined by E. A. Fitzpatrick (q. v.), taking issue with details as to method but agreeing on the main issue.

Cincinnati. Municipal reference bureau, University of Cincinnati. What it is, what it does, how it works. [1915.]

Cincinnati, University of. Announcement of the cooperative courses. College of Engineering, 1912-1913.

—— Annual catalogue, 1913-1914. University of Cincinnati Record, January 1914.

Foundation, p. 37-41. Municipal reference bureau, p. 44. College for teachers, p. 144. Cooperative system, p. 165-167. Hygiene, p. 242-244.

—— Annual catalogue, 1914-1915. University of Cincinnati Record, January 1915.

Foundation, p. 37-41. Municipal reference bureau, p. 44-45. College for teachers, p. 152. Cooperative system, p. 175-178. Hygiene, p. 253.

—— Annual report of the president, 1907.

Municipal university, p. 5-6.

College of engineering—cooperative courses, p. 12-16.

—— Condition and history of the university in 1912, including a sociological study of the student body. University of Cincinnati Record, August 1913.

Cooperation in the city departments, p. 13. Municipal exhibit, p. 13. Study of the student body, p. 18-31.

—— Cooperation in education at the University of Cincinnati. 1908.

From the annual reports of 1908; describes the cooperative work in the college for teachers and the college of engineering for the city.

Especially: City universities, p. 11-14; cooperative engineering course, p. 43-50; cooperation with the public schools, p. 53-62.

—— Educational system. [1915.]

Chart showing departments of Cincinnati educational system from public kindergartens to graduate school, including bureaus of municipal reference, vocational service, psychological research, and affiliated organizations like the City Club.

—— Education and cooperation in Cincinnati.

Descriptive pamphlet concerning the school system of Cincinnati from the grades to the university, and of other educational institutions of the city.

—— Exhibit of the University of Cincinnati. 1912.

Pamphlets of charts shown at the Budget Exhibit, illustrating cooperative work of the university.

—— How the university serves the city. [1911.]

Three charts, with explanations.

—— How the university serves the city. 1913.

Some facts from the exhibit of the University of Cincinnati at the municipal university.

—— Municipality owns university of nation-wide prominence.

Reprint of newspaper article. Describes the municipal university of Cincinnati.

—— Municipal university. 1911.

Income of the city, p. 8-10. College and the city, p. 12-18.

—— Municipal university devoted to the advancement of liberal and technical learning and to the service of the people of Cincinnati. July 1912.

Bulletin of information.

—— Organization and stations of cooperative work. [1914.]

Map showing 95 stations.

—— Our municipal courses. City College Quarterly, March 1916.

—— Progress of the university. 1909.

Needs of the university, p. 17-24.

—— Progress of the university and its needs.

Progress of the university, p. 14-18.

—— Service of the university to the city and its institutions. 1913.

Service of some of the departments, p. 9-11. Extramural work, p. 11-15. Municipal reference bureau, p. 15-16.

Cincinnati, University of. Service of the university to the city and the annual reports of the officers for 1913. *University of Cincinnati Record*, July 1914.

Passim, especially: Service of some of the departments, p. 12-14. Extramural work of the university, p. 14-16. Municipal reference bureau, p. 18, 59-60.

— Service of the university to the city and the annual reports of the officers, 1914. *University of Cincinnati Record*, October 1915.

Passim, especially: Municipal reference bureau, p. 15-16, 76-77; bureau of city tests, p. 17, 80-82; evolution of cooperative system, college of engineering, p. 54-56.

— Sociological study of the student body.

Brief statement of the investigation of the student body. See fuller accounts elsewhere in this list.

— Study of the student body.

A full account of courses to train those in the employ of the City of New York. By Frederick B. Robinson, director of the division of vocational subjects and civic administration.

Claxton, P. P. Cooperative methods in education. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 18-25.

The municipal university and its problems.

— Public service as a career. *In National Conference on Public Service. Proceedings*, 1st, 1914. p. 63-65.

Compares modern needs with old traditions.

— Sound educational principle. *In National Conference on Public Service. Proceedings*, 1st, 1914. p. 22-23.

Lays down the fundamental principle that practical experience added to theory leads to a sounder educational policy.

Clevenger, J. F. Effect of the soot in smoke on vegetation. Pittsburgh, Pa. Mellon Institute of Industrial Research and School of Specific Industries, 1918. (Smoke investigation bulletin, No. 7.)

Illustrated. Investigation as to the injury to trees caused by the smoke nuisance in Pittsburgh.

Cockayne, C. Civic universities in Great Britain. *In National Association of Municipal Universities. Proceedings*, 1st. p. 33-37.

Brief historical account of the seven British municipal universities: Birmingham, Leeds, Liverpool, Sheffield, Bristol, National University of Ireland, and Belfast.

Colby, E. Call to battle. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 24-26.

Describes the change in university education.

College of the City of New York. Annual catalogue. Statement concerning municipal students and the evening session.

— Department of chemistry. September 1912.

Introductory statement, p. 5-6.

— Facts for students seeking a collegiate education. 1912.

History, p. 59-64.

— Report of the committee on municipal service survey. December 31, 1915.

Report of ways in which the college might be of service to the New York city government, (1) in preparing future employees; (2) in improving efficiency of present employees.

Columbia University. Committee on training for public service. Report, March 27, 1915.

Arrangement of courses for training for public service.

Cooke, M. L. Cooperation of the University of Pennsylvania and the Philadelphia department of public works. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 191-197.

The work of the University of Pennsylvania in Philadelphia.

- Coulter, J. M. University and research. *University of Chicago Magazine*. 8: 98-95, January 1916.
- Creecraft, E. A. Municipal reference library. *National Municipal Review*, 2: 644-652, October 1913.
Includes municipal reference libraries of universities: Wisconsin, Kansas, Illinois, Cincinnati.
- Curtis, M. M. Does Cleveland need a university? 1915. [Typewritten.]
- Cutting, R. F. Democracy and a trained public service. *In National Conference on Universities and Public Service*. 1st, 1914. p. 117-119.
Training as an additional qualification for efficient public service.
- Dabney, C. W. Movement for the modern city university in Germany. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 37-42.
Brief historical account of the development of German municipal universities: Frankfort-am-Main, Dresden, Cologne, Düsseldorf, Hamburg, and municipal training schools in Cologne, Berlin, and Düsseldorf.
- Movement for the modern city university in Germany. *School and Society*, 1: 150-154, January 30, 1915.
Description of German city universities, with emphasis on the municipal universities.
- Municipal university. *Journal of Education*. 81: 308-309, April 8, 1915.
- Municipal university. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 7-15.
The need for the municipal university and its relation to other city departments and institutions.
- Municipal university. Reprinted from the *National Association of State Universities*, 1914, v. 12.
Explains the service of the municipal university to the municipality.
- Municipal university. *School and society*, 1: 73-80, January 16, 1915.
Compares the advantages of the municipal over the city university and its co-operative facilities with the city government.
- Municipal university and its work. *In National Education Association*, 1912. p. 773-780.
Describes the University of Cincinnati and its cooperation with the city.
- Study of the student body of the University of Cincinnati, a municipal institution. *National Municipal Review*, 3: 68-77, January 1914.
A sociological study of the student body.
- University of Cincinnati. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 56-58.
Public service of the University of Cincinnati: Department of social science, Municipal reference bureau, City testing bureau, Industrial survey.
- Daly, J. University of Cleveland. *Cleveland Plain Dealer*, February 22, 1914.
- Dewey, J. Educational principles involved. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 249-254.
Discusses need for training for public service, with methods of coordinating theory and practice.
- Düsseldorf's municipal college. *National Municipal Review*, 1: 306-307, April 1912.
Describes new school for training municipal officials. See also same magazine for April 1914 and July 1913.
- Duggan, S. P. College of the City of New York and community service. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 156-160.
The opportunities for community service in New York.

Duncan, R. K. Industrial fellowship of the Mellon institute. *Science*, n. s. 39: 672-678, May 8, 1914.

Felker, F. M. Herman Schneider. *System*, 23: 48-49, January 1913.

Biographical sketch of the dean of the engineering department of the University of Cincinnati, who proposed the half-time plan of work and schooling.

Fellows, G. E. Millikin University, Decatur, Ill. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 54-55.

Proposed cooperation between university and a small city.

Finley, J. H. *Man and the job*. 1910. Reprinted from *City College Quarterly*. Training for the city's young men is the function of the city college.

—— Spoken word. 1910. Reprinted from the *City College Quarterly*. New York City College—democracy's school.

—— Thirtieth man. 1911. Reprinted from the *City College Quarterly*, October 1911.

One of every 30 men is a public servant. Education of young men of the city should include training for service to the community.

Fitzpatrick, E. A. Institute of political and administrative research. *School and Society*, 3: 449-452, March 25, 1916.

—— Introduction. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 9-10.

Explains purpose in the organization of this new association.

—— National program for training for public service. *Public Servant*, February 1916. p. 3-9.

—— Plan for a university extension department. Madison, Wis., *Society for the Promotion of Training for Public Service*, August 1915.

—— Progress of the movement for training for public service. *Public Servant*, March 1916. p. 19-26.

Describes recent phases of the movement in the University of Illinois, University of Minnesota, Columbia University, University of Pennsylvania, University of Wisconsin, University of Missouri, University of Vermont, New York University, University of Texas.

—— Universities and training for public service. *Survey*, 32: 614-615, September 19, 1914.

The secretary of the committee on practical training of the American Political Science Association discusses the problem of training for public service by the universities.

—— University training for public service. *American Political Science Review*, 8: 674-679, November 1914.

Argues that practical training for public service should be conducted as a part of university work.

Foltz, E. B. K. *Federal civil service as a career*. New York, Putnam's Sons, 1909.

College graduate in public life, p. 307-319.

Foster, W. T. Reed College, Portland, Oreg. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 58-61.

Cooperative studies: Motion picture shows, Unemployed, Faculty membership in vice commissions, Health bureaus, Social hygiene society, Establishment of clearing house for social, moral, economic, and political progress.

Gephart, W. F. Washington University, St. Louis, Mo. *In National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 55-56.

Cooperation between university and city, especially in school for social workers, special investigations, etc.

Gilbertson, H. S. *City managership—a new career in public service*. *In National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 89-112.

University training of city managers, p. 89-94. Discussion, p. 95-112.

- Gilman, D. C. Launching of a university and other papers; a sheaf of remembrances. New York, Dodd, Mead & Co., 1906.
Chapter 14, Research, p. 235-251; chapter 15, Dawn of a university in the Western Reserve, p. 253-277, especially p. 267.
- Gray, J. H. Public administration and practical training for public service. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 46-56.
Reciprocal benefits of training for public service to city and university.
- Greenough, M. B. Automobile as a factor in highway construction and maintenance. [Ohio] Motorist, December 1914. p. 5-11.
Describes traffic census taken by students in civil engineering in Case School of Applied Sciences, Cleveland.
- Gruener, H. Progress of water filtration, with special reference to Cleveland. Western Reserve University Bulletin, 16: 159-171, November 1913.
Investigation as to methods for securing a pure water supply for the city of Cleveland.
- Haldane, R. B. Civic university. Hibbert Journal, 11: 233-254, January 1913.
Also reprinted, May 1913.
An address to the citizens of Bristol, with mention of German and British municipal universities. Describes the functions of a modern city university: "Universities [are] becoming increasingly prominent in all municipal functions of a public character."
- Civic university. Nature, 90: 225-226, October 24, 1912.
Extracts from Viscount Haldane's address.
- Hamilton, F. W. How can class gifts to universities be made to emphasize the social function of the university and to stimulate training for public service? School and Society, 3: 445-449, March 25, 1916.
- Harper, W. R. Trend in higher education. Chicago, University of Chicago Press, 1905.
Chapter 9, Urban university, p. 156-160.
- Hasse, A. R. Schools giving instruction in municipal administration in Germany. National Municipal Review, 3: 402-403, April 1914.
A list of German schools for training city officials.
- Heaton, J. P. School for mayors. Survey. 27: 1340-1341, December 9, 1911.
Discusses work of the Bureau of Municipal Research, New York, N. Y.
- Hicks, F. C. Ideal municipal university. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 120-125.
The ideals of the University of Cincinnati.
- Holcombe, A. N. Harvard point of view. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 255-266.
Practical training for public service, with discussion as to University credit, p. 255-259.
Discussion, p. 260-266.
- Horne, C. F. Sons of the city. Outlook, 104: 706-712, July 26, 1913.
Describes College of the City of New York—"New York City's most important manufactory . . . [whose product is] citizens."
- Hotchkiss, W. E. Northwestern University, Evanston, Ill. *In* National Association of Municipal Universities. Proceedings, 1st, 1914. p. 62-64.
Participation of this university in affairs of the community.
- How the universities are helping. American City, 9: 401-402, November, 1913.
Describes three examples of increasing interest of American universities in co-operative community work. Cornell: Course in citizenship. Harvard: Sanitary commission of Cambridge. University of California: Bureau of municipal reference.

James, E. J. Professional training for important positions in the public service. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 269-273.

Brief historical account; the German solution and the situation in the United States.

James, H. G. Announcement of courses in municipal administration at the University of Texas. Austin, University of Texas, 1914. (Municipal research series, No. 3, September 5, 1914.)

University and the city, p. 5-8.

—— City's need, the university's opportunity. *American City*, 10: 247-249, March 1914.

Adapting university to community needs.

—— Training for public service at the University of Texas. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 198-220.

Describes the work of the University of Texas, in training men for the public service, with accounts of the Texas Bureau of Municipal Research and the proposed school of municipal administration, p. 198-205.

Discussion, p. 206-220.

—— University training for municipal administration. Austin, University of Texas, 1915. (Municipal research series, No. 11, August 20, 1915.)

The university as a training school for public service.

Jenks, J. W. Cooperation between city governments and universities. *National Municipal Review*, 3: 764-766, October 1914.

Suggestions as to cooperative methods.

—— New York University, New York, N. Y. *In* National Association of Municipal Universities. Proceedings, 1st, 1914. p. 44-46.

Brief description of cooperation between city and university.

—— University professors helping government—a brighter side. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 57-59.

The influence of the college professor in actual governmental affairs.

—— What a college of administration might do for New York. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 146-155.

Describes the need of a college of municipal administration in New York City for practical training of the city officials.

Kaiser, J. B. Law, legislative, and municipal reference libraries. Boston, Boston Book Co., 1914.

Legislative reference in universities, p. 76-77, 232.

List of municipal reference libraries, including university bureaus, p. 251-261.

Municipal reference in universities, p. 243-245, 243n-245n.

—— Municipal reference libraries. *Nation*, 94: 109, February 1, 1912.

A letter regarding the establishment of municipal reference libraries in cities and universities, to aid in the solution of municipal administrative problems.

Kimball, H. H. Meteorological aspect of the smoke problem. Pittsburgh, Pa., Mellon Institute of Industrial Research and School of Specific Industries, 1913. (Smoke investigation bulletin, No. 5.)

Research work as to the effect of smoke on the climate and sunshine of Pittsburgh.

King, C. L. Cooperation between universities and cities. *National Municipal Review*, 5: 122-123, January 1916.

Comment on second annual conference of the Association of Urban Universities.

—— Local residence requirement for public office. *Public Servant*, February 1916, p. 10-15.

Shows the advantages of employing expert and efficient men without regard to residence.

King, C. L. Training for municipal service. *Scientific American (supplement)*, 79: 118-119, February 20, 1915.

How public business is conducted efficiently and without waste in German cities.

——— Training for the municipal service in Germany. Reprint from the *Journal of the American Society of Mechanical Engineers*. 1914.

Discusses the German State universities, urban universities, and municipal universities, and their work in relation to municipal service.

Klotz, O., and W. C. White, eds. Papers on the influence of smoke on health. Pittsburgh, Pa., Mellon Institute of Industrial Research and School of Specific Industries, 1914. (Smoke investigation bulletin, No. 9.)

Investigation as to the effect of the smoke nuisance on the health of the city of Pittsburgh.

Kolbe, P. R. Civic investment. *Popular Science Monthly*, 87: 250-253, September 1915.

Gives two reasons for the foundation of the municipal university of Akron: (1) Training of students. (2) Cooperation with city departments and activities.

——— Demonstration of university and governmental cooperation and the next step. In *National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 163-166.

A brief word as to the prospects for the municipal and urban colleges in the United States.

——— History of the establishment of the municipal university of Akron. Akron, Ohio, Municipal university, 1914.

Brief historical account, p. 3-20. Newspaper comment, p. 20-26.

——— Municipal university of Akron. In *National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 42-44.

Brief historical account of establishment and description of organization.

——— Municipal university of Akron; a history of its establishment. 1912.

——— Present status of the American municipal university. In *National Association of Municipal Universities. Proceedings*, 1st, 1914. p. 15-18.

Gives an historical account of American municipal universities and their legal status.

——— Present status of the American municipal university. *School and Society*, 1: 484-486, April 3, 1915.

Discussion of city universities in United States. Two classes: (1) Municipal universities supported by cities. (2) Urban universities supported by private agencies.

——— Relation of the municipal university to the educational system. *School and Society*, 2: 186-191, August 7, 1915.

Lavine, Morris. University and the police. *Illustrated World*, 24: 816-821, February 1916.

Describes courses in psychology given to the city police of Berkeley by the University of California.

Leathes, S. Universities and the public service. *Nineteenth Century*, 72: 1260-1267, December 1912.

Discusses the kind of education needed to train public men and public servants.

Levermore, C. H. Complete municipal university. *North American*, 196: 705-713, November 1912.

Describes a model university in a city and its work for the citizens.

Lindsay, S. M. New York as a sociological laboratory. In *National Conference on Universities and Public Service. Proceedings*, 1st, 1914. p. 133-138.

The opportunities in New York for the study of social problems and their legislative aspects.

Linhart, S. B. University of Pittsburgh, Pittsburgh, Pa. *In National Association of Municipal Universities. Proceedings, 1st, 1914. p. 46-48.*

Brief description of cooperative methods of this university, which though not a municipal university receives appropriations from the city.

Lord, E. W. Boston University, Boston, Mass. *In National Association of Municipal Universities. Proceedings, 1st, 1914. p. 48-52.*

Brief account of university extension work and other methods of cooperation with city and State.

Louisville, University of. Catalogues, 1912-13, 1913-14, 1914-15.

History, p. 7-9; 6-9; 7-10.

——— To supply Louisville's great need.

Statement issued to acquaint the people with the history of the institution.

Mable, H. W. University and research work. *In his American Ideals. p. 245-266.*

Discusses movement toward research in governmental fields which is gathering momentum in the United States.

Macadam, E. Universities and the training of the social worker. *Hibbert Journal, 12: 283-294, January 1914.*

McCarthy, C. Plan of the committee on practical training for public service. *In National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 243-248.*

Training for public service; outline of a proposed plan.

——— Upbuilding of administration; the greatest need of American democracy. *In National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 33-45.*

Gives the reasons for practical training for public service from the administrative viewpoint.

McClelland, E. H. Bibliography of smoke and smoke prevention. Pittsburgh, Pa., Mellon Institute of Industrial Research and School of Specific Industries, 1913. (Smoke investigation bulletin, No. 2.)

McClure, S. S. Public service as a career. *In National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 66-67.*

Efficient city government and a trained public service.

McCormick, S. B. Should universities organize institutes of political research on the plan of the Mellon Institute of Industrial Research? *School and Society, 3: 433-436, March 25, 1916.*

McDougal, R. University research. *School and Society, 1: 793-800, June 5, 1915.*

Progress of university research in the United States, touching on the governmental field.

McVey, F. L. Relation of the universities to public service. *School and Society, 3: 411-416, March 18, 1916.*

Manchester, University of. Municipal School of Technology. Prospectus of part-time courses in municipal and sanitary engineering, architecture, and building trades, 1913-14.

——— Prospectus of university courses, 1913-14, 1915-16.

Municipal and sanitary engineering, p. 55-56. Syllabuses, p. 139-145; 136-142.

Mellon Institute of Industrial Research and School of Specific Industries, University of Pittsburgh, Pittsburgh, Pa. Industrial fellowships. 1914.

"The Mellon institute . . . represents an alliance between industry and learning"—this is its purpose.

——— Some engineering phases of Pittsburgh's smoke problem. *Smoke investigation bulletin, No. 8, 1914.*

Survey of field work done by the institute among the manufacturing plants of Pittsburgh.

Mitchel, J. P. Universities and the public service. *In* National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 19-21.

The mayor of New York City arrives at the conclusion that a closer cooperation between universities and city government is needed for three purposes: (1) To give university students practical knowledge of government; (2) to secure a trained public service; (3) to solve governmental problems.

Municipal university. Reprint.

Describes University of Cincinnati, with some mention of the other municipal universities in the United States and abroad.

Municipal university as a civic investment. *Current Opinion*, 59:341, November 1915.

Describes the aims of Ohio's three municipal universities: Cincinnati, Toledo, Akron.

Munro, W. B. Bibliography of municipal government in the United States. Cambridge, Mass., Harvard University Press, 1915.

Agencies of instruction in municipal government, p. 387-390.

——— Instruction in municipal government in the universities and colleges of the United States. *National Municipal Review*, 2: 427-428, July 1913.

Résumé of college instruction in municipal government supplementary to report by author in 1908. (*See* National Municipal League. Proceedings, 1908. p. 348-366.)

——— Present status of instruction in municipal government in the universities and colleges of the United States. *In* National Municipal League. Proceedings, 1908. p. 348-366. Also reprinted.

Report of the committee on the coordination of instruction in municipal government.

Murlin, L. H. Results of cooperation by the municipality and the university in education. *School and Society*, 2: 911-917, December 25, 1915.

——— University and the city. *In* Inauguration of Lemuel Herbert Murlin as president of Boston University, October 20, 1911.

President Murlin's inaugural address; describes the problems of the city university and the need of practical cooperation with its influence on educational curricula.

National Conference on Universities and Public Service. College and the city. [Reprint of a part of the proceedings, 1st, 1914.] 1914.

——— Universities and public service. Proceedings, 1st, 1914.

Institutions represented, p. 18-15. Opening addresses, p. 16-30. Upbuilding of governmental administration, p. 31-60. Public service as a career, p. 61-112. Municipal universities, p. 113-166. Public service activities of universities, p. 167-220.

Should universities give credit for work done in governmental bureaus and other agencies, p. 241-226. Appendix, p. 267-280. Newspaper comment, p. 281-289. Articles indexed under names of authors.

National Education Association. Cincinnati. 1915.

An account of the school system of Cincinnati and the methods of cooperation between the university and the other educational forces of the city.

Public school system as a whole, p. 7-36. University of Cincinnati, p. 37-46.

New York City. Bureau of Municipal Research. Training for municipal service. Municipal research, No. 68, December 1915.

——— Training school for public service. Annual report, 1913. Efficient citizenship, No. 670, March 18, 1914.

Describes the field work of the school for which credit is given by Columbia University, New York University, and the University of Pennsylvania.

——— Training school for public service. Annual report, 1915. Municipal Research, Extra No. 1, August 1915.

Relations with universities, p. 24-25.

- New York University. Health officers correspondence course in hygiene and sanitation. Calendar, September 11, 1915, p. 1-3.
Announcement of course in public health problems for health officers actually in service.
- Norton, A. O. Readings in the history of education; Medieval universities. Cambridge, Mass., Harvard University Press, 1906.
Privileges granted by a municipality, p. 98-100.
Influence of medieval privileges on modern universities, p. 101-102.
- Norton, C. P. University of Buffalo, Buffalo, N. Y. *In* National Association of Municipal Universities. Proceedings, 1st, 1914. p. 50.
Brief mention of an attempt to found a municipal college.
- O'Connor, J. J. Economic cost of the smoke nuisance to Pittsburgh. Pittsburgh, Pa., Mellon Institute of Industrial Research and School of Specific Industries, 1913. (Smoke investigation bulletin No. 4.)
Investigation of the smoke nuisance in Pittsburgh, with statistics as to the financial loss to the city.
- Ohio. Municipal universities in Ohio statutes. [Typewritten.]
A copy of the sections of the General Code relative to the powers of cities to establish and maintain municipal universities: Sections 4001-4003, 7902-7920.
- Ohle, E. L. Smoke abatement—a report on recent investigations made at Washington University [St. Louis, Mo.]. Journal of the Association of Engineering Societies, 55:139-148, November, 1915.
Investigation as to methods for checking the smoke nuisance in St. Louis.
- Patterson, J. L. University of Louisville and the municipal university. 1912.
Editorials from the Courier-Journal reprinted.
- University of Louisville, Louisville, Ky. *In* National Association of Municipal Universities. Proceedings, 1st, 1914. p. 61-62.
Brief historical account of the municipal university and its cooperation with the city.
- Paulsen, F. German universities; their character and historical development. New York, Macmillan, 1895.
Relations to the community, p. 105-125.
Social equality of educated men and nobility as a basis of public office holding.
- Paxton, E. T. Street paving in Texas. Austin, University of Texas, 1915.
(Municipal research bulletin, No. 9, May 5, 1915.)
Exposition of importance of street paving as a municipal problem, with information as to pavements in Texas cities and suggestions for the care and treatment of streets.
- Pittsburgh, University of. Department of Industrial Research. Outline of the smoke investigation. Bulletin, No. 1, August 1912.
Announcement and outline of the smoke investigation undertaken by the University of Pittsburgh.
- Reber, L. E. University extension—its scope and administration. School and Society, 2: 145-152, July 31, 1915.
- Reed, T. H. Government for the people. New York, B. W. Huebsch, 1915.
Place of experts in State and local administration, p. 194-214.
- Relation of the university to the community. Education, 32: 314-316, January 1912.
Summary of discussion at the educational conference held at New York University, November 10, 1911, on the problem of how the urban university can best study and meet the needs of its community.
- Salt, E. M. Research and reference bureaus. National Municipal Review, 2: 48-56, January 1913.
Gives a list of university bureaus, describing their functions.

- Schneider, H. *Municipal universities.* In National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 184-188.
The coordination of theory and practice based on the University of Cincinnati system.
- *Philosophy of the cooperative method.* In National Association of Municipal Universities. Proceedings, 1st, 1914. p. 25-26.
Reasons for extension of university's functions.
- *Field work.* Announcement of the committee on field work for the Association of Urban Universities, by Frederick B. Robinson, secretary. 3: 69, April 22.
- Shaw, A. *Knowledge in the guidance of committees.* University of Cincinnati Record, July 1913.
Part played by university in affairs of the city in which it is located.
- Shiels, A. *Opportunity of the College of the City of New York.* In National Conference on Universities and Public Service. Proceedings, 1st, 1914. p. 139-145.
Describes the opportunities of the college in New York City.
- Sidlo, T. L. *Teaching practical politics.* Western Reserve University Bulletin, 13: 105-116, November 1910.
Reciprocal valuable effect on colleges and politicians to be obtained by "calling in the men that play the game" to the classroom to expose their experiences.
- Simon, A. *City mind and the municipal university.* June 18, 1913.
- Smith, Z. D. *Field work.* In National Conference of Charities and Corrections, 1915. Reprint No. 49.
Necessity of combination of field work and class work in training for social work.
Society for the Promotion of Training for Public Service. Aims and purposes of the society. 1915.
Outlines the work of the society.
- *Constitution.* [1915.]
- Stevens, M. D. *Let the expert do it!* Illustrated World, 24: 590-593, January 1916.
- Stowe, A. M. *Efficient womanhood; an open letter to the women of Toledo.* [1914.]
A printed letter to the women of Toledo to attend the municipal university, with a list of courses.
- *Liberal education for workers? an open letter to Toledo workers.*
- *Toledo University.* In National Association of Municipal Universities. Proceedings, 1st, 1914. p. 52.
Plans for cooperation through a public service bureau.
- *Work of a municipal college of arts and sciences.* School and Society, 2: 786-788, November 27, 1915.
- Toledo. *City financial problems.* [1914]
Campaign booklet advocating the Toledo University tax levy.
- *Futility of the attempt to establish a municipal university under the shadow of a great State university.* [1914.]
Campaign booklet against the Toledo University tax levy.
- *Ordinance to provide for the establishment of the Toledo University.* March 18, 1884.
- Toledo University. *Announcements; the college of arts and sciences and the college of industrial science.* Bulletin, September 1912.
History, p. 5-8.

Toledo University. Announcements; the college of arts and sciences and college of industrial science. Bulletin, March 1913, p. 8-11.

General statement, p. 5-7. Historical sketch, p. 8-11. Ordinance establishing university, p. 9-10.

The university and the municipality. Summary of proceedings of the first session of the National Association of Municipal Universities. Washington, Government Printing Office, 1915. (U. S. Bureau of Education. Bulletin, 1915, No. 88.)

University course in the valuation of public utilities. February 1914. p. 193.

Announces course in University of Pittsburgh.

University training for public service. American Political Science Review, 8: 674-679, November 1914.

Wallas, G. University and the nation in America and England. Contemporary Review. 105: 783-790, June 1914.

College men in public life in the United States and in England contrasted. "American distrust of the 'college-bred man' is dying out."

Wallin, J. E. W. Psychological aspects of the problem of atmospheric smoke pollution. Pittsburgh, Pa., Mellon Institute of Industrial Research and School of Specific Industries, 1913. (Smoke investigation bulletin, No. 8.)

Pt. 1, Pathology of smoke, p. 5-32. Pt. 2, Aesthetic aspects of smoke pollution, p. 33-43.

Washburn, W. S. College man in the public service. Bibliography. Science, 34: 589-593, November 3, 1911.

The increase of college men in the federal civil service leads to efficient and economical administration.

Wells, E. H. University of Cleveland. Cleveland Plain Dealer, February 6, 7, 9, 10, 1914.

A series of four articles: (1) Some American examples of successful municipal universities. (2) Work and influence of a municipal university. (3) Loose ends in Cleveland educational system. (4) How Cleveland might get a university.

University of the City of Cleveland; report to Mayor Newton D. Baker. [Typewritten.] 1914.

Brief digests of history of American municipal universities with recommendations showing advantages of establishing a municipal university in Cleveland and of cooperation between city and university.

Wisconsin Free Library Commission. Instruction in library administration and public service. 1913.

Announcement of courses in the library school for public service training in municipal reference and public commission work.

Woodbridge, F. J. E. University and the public. Educational Review, 49: 100-125, February 1915.

The change in the viewpoints of the university and the public in respect to each other and the increased scope of university activity in recent years.



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 31

MONTHLY RECORD
OF CURRENT EDUCATIONAL
PUBLICATIONS

NOVEMBER, 1916



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

**ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY**

MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

Compiled by the Library Division, Bureau of Education.

CONTENTS.—Publications of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology: Child study—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—School administration—School management—School hygiene and sanitation—Physical training—Play and playgrounds—Social aspects of education—Child welfare—Moral education—Religious education—Manual and vocational training—Vocational guidance—Home economics—Commercial education—Civic education—Military training—Education of women—Negro education—Education of immigrants—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications—Bulletin of the Bureau of Education.

NOTE.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

PUBLICATIONS OF ASSOCIATIONS.

1256. **Associated academic principals and Council of elementary school principals and teachers.** Proceedings of the thirty-first annual meeting . . . Syracuse, 1915. 144 p. 8°. (Edward P. Smith, secretary, North Tonawanda, N. Y.)

Contains: 1. H. D. DeGroat: The weak teacher and the principal's responsibility, p. 2-7. 2. P. W. L. Cox: The relations of our present type of school organization to the socialization of education, p. 7-20. 3. H. H. Horner: The correlation of examinations and inspections, p. 21-35. 4. C. S. Wilson: Agriculture in our schools, p. 35-40. 5. Julia E. Crane: Music in the high school, p. 40-50. 6. George Works: Vocational work in the rural and village high school, p. 50-55. 7. William Wiener: Supervised study a social need of the high schools, p. 55-64. 8. F. W. Roman: A re-statement of the relation of vocational education to democracy, p. 64-69. 9. David Snedden: New problems in secondary education, p. 69-80. 10. H. N. MacCracken: Does the high school menace the college? p. 80-89. 11. Report of committee on visual instruction, p. 89-92. 12. R. B. Kelley: Elementary science in the grades, p. 113-21. 13. N. G. West: Some practical suggestions on the teaching of patriotism, p. 121-31. 14. P. M. Paine: The book, the teacher, and librarian, p. 131-42.

1257. **National education association.** Proceedings, general session, 1916. Journal of the National education association, 1: 1-95, September 1916.

Contains: 1. D. B. Johnson: The rural home and the farm woman, p. 35-39. 2. W. H. Taft: A league to enforce world peace, p. 40-48. 3. W. D. Foster: Organized recreation, p. 48-53. 4. Cora W. Wilson: The elimination of illiteracy, p. 53-57. 5. J. D. Eggleston: First aid to the country teacher—a suggestion as to vitalizing the country schools thru our present teachers, p. 57-62. 6. E. F. Young: The secular free schools, p. 62-67. 7. C. R. Van Hise: The place of the university in a democracy, p. 67-72. 8. J. R. Kirk: The place of the normal school in a democracy, p. 72-76. 9. W. J. Bryan: Citizenship in a republic, p. 76-78. 10. J. Y. Joyner: Preparation thru education for a democracy, p. 78-81. 11. C. G. Pearce: The common school as an instrument of democracy, p. 81-85. 12. G. S. Hall: The war and education, p. 85-91. 13. F. F. Andrews: What the public schools can do toward the maintenance of permanent peace, p. 92-95.

1258. **New Hampshire state teachers' association.** Proceedings . . . sixty-second annual meeting, held in Manchester, N. H., October 22, 1915. 56 p. 8°. (E. W. Butterfield, secretary-treasurer, Dover)

Contains: 1. Code of professional ethics adopted by the New Hampshire state teachers' association, October 22, 1915, p. 11-15. 2. H. A. Hollister: Administrative and content readjustments of high school curricula, p. 17-20. 3. A. W. Edson: Individual study, p. 20-21. 4. H. W. Foght: The rural schools which made Denmark famous, p. 22-24. 5. S. P. Cabot: Modern language teaching in thirty-six representative schools, p. 30-35. 6. E. R. Greene: The study of Spanish in the United States, p. 36-39.

1259. **Southern Baptist educational association.** Select papers read before the Southern Baptist educational association, January 1916. Waco, Texas, Baylor university, August 1916. 50 p. 8°. (Baylor bulletin, vol. 19, no. 4)

Contains: 1. M. Latimer: Standards as a factor of efficiency in college education, p. 5-13. 2. C. S. Gardner: What the denominational college can contribute to society by virtue of its being Christian, p. 14-20. 3. E. Godbold: Equipment as a factor in our colleges, p. 21-25. 4. J. H. Foster: The function of the denominational college as contrasted with that of the state school, p. 28-34. 5. H. G. Brownell: Efficiency of teachers, p. 35-41. 6. W. W. Rivers: The present status of the junior college, p. 42-50.

EDUCATIONAL HISTORY AND BIOGRAPHY.

1260. **Cooper, Charles P.** Schoolmaster to half a million. Independent, 88 : 70-71, October 9, 1916.

An appreciative article on the work of Superintendent Maxwell, of New York city.

1261. **Heatwole, Cornelius Jacob.** A history of education in Virginia. New York, The Macmillan company, 1916. 382 p. front. 12°. (Home and school series, ed. by P. Monroe)

Bibliography: p. 375-77.

1262. **Knight, Edgar W.** Public school education in North Carolina. Boston, New York [etc.] Houghton Mifflin Company [1916]. viii, 384 p. 12°.

A record of public educational progress in North Carolina from the earliest times to the present.

1263. **McMania, John T.** Ella Flagg Young and a half century of the Chicago public schools. Chicago, A. C. McClurg & Co., 1916. 238 p. illus. 12°.

1264. **Mahoney, John J.** Readers in the good old days. Educational review, 52 : 217-26, October 1916.

Begins with the period between 1700 and 1800. The period between 1800 and 1850 marks the beginning of American textbook authorship. Author cites many amusing quotations from the old readers.

CURRENT EDUCATIONAL CONDITIONS.

1265. **Bluhm, Solomon.** Education in the new Germany. School and society, 4 : 503-509, September 30, 1916.
1266. **Denver.** School survey. Report of the school survey of School district number one in the city and county of Denver. pt. II-III. Denver, Colo., The School survey committee, 1916. 2 v. 8°.
- CONTENTS.—pt. II. The work of the schools. Elementary schools. By F. Bobbitt. High schools. By C. H. Judd.—pt. III. Vocational education. By C. A. Prosser [and] W. H. Henderson.
1267. **A handbook of American private schools.** An annual publication. 1916. Boston, Porter E. Sargent [1916]. 604 p. 12°. (Sargent's handbook series)
- Contains: 1. History of the private school, p. 31-39. 2. Chronological list of historic schools still existent, p. 40-42. 3. The early education of girls, p. 43-45. 4. Development of the summer camp, p. 46-51. 5. The new school movement, p. 52-53. 6. The year's advance in education, p. 54-62. 7. A. O. Norton: Measuring educational results, p. 66-71. 8. C. C. Kohl: Recent educational literature, p. 72-78. 9. A select classified reading list, p. 79-90. 10. Critical description of schools and summer camps, p. 93-278.
1268. **Jespersen, Otto.** The reflections of a Danish scholar on the war. Educational review, 52 : 284-90, October 1916.
1269. **Moore, Ernest C.** Contemporary ideals in education. Educational review, 52 : 227-46, October 1916.
- "Unity of desire, unity of plan and aspiration, unity of resolution and of action, the lesson of unity must be taught in the schools . . . and it must be the chief lesson which is taught there."
1270. **Sadler, M. E.** An English education for England. Contemporary review, 110 : 273-89, September 1916.
- Discusses "the improvement of the elementary schools, and the provision of suitable continuation schools, to be held in daylight hours for all young people during adolescence."
1271. **Sailer, T. H. P.** Some impressions of education in the far East. International review of missions (Edinburgh) 5 : 541-51, October 1916.
- Among other things gives an appreciative review of education in the Philippines. See also article on "Impressions of missionary education in China," by same author, in Chinese recorder (Shanghai) 47 : 585-92, September 1916.
1272. **Super, Charles W.** Our educational system and its critics. School and society, 4 : 463-69, September 23, 1916.
1273. **Swift, F. H.** Impressions of the Gary school system. Educational administration and supervision, 2 : 503-12, October 1916.
- A survey of the merits and defects of the Gary schools. The writer says that the Gary system "is a monument to the need of supervision, the evils arising from the lack of the same, and the folly of economy sought through the channels Gary utilizes." He says he has "never seen within the same amount of time and within the same number of classes in any other system of the same size the laws of child life, both physical and mental, so flagrantly violated."
1274. Synopsis of the report of the committee of the Bureau of Education to the Washington educational survey commission. School and society, 4 : 522-29, September 30, 1916.

EDUCATIONAL THEORY AND PRACTICE.

1275. **Burnett, T. J.** The essentials of teaching; a book for amateurs. London, New York [etc.] Longmans, Green, and co., 1916. 250 p. 12°.
1276. **Dearborn, George Van Ness.** How to learn easily; practical hints on economical study. Boston, Little, Brown, and company, 1916. 227 p. 12°.

1277. **Gerson, Armand J.** Appreciation: an educational aim. *Current education*, 20 : 220-23, September 1916.

The author says that "It is for our public schools to plant in the hearts of the new generation an appreciative attitude toward nature and art so that things of beauty may indeed be joys forever."

1278. **Greene, William Chasé.** Culture. *North American review*, 204 : 610-15, October 1916.

Writer says that our national culture should be the expression of a mature and well-balanced interest in humanity.

1279. **Hall, John William and Hall, Alice Cynthia King.** The question as a factor in teaching. Boston, New York [etc.] Houghton Mifflin company [1916] viii, 189 p. 12°.

Contains such questions as the authors believe should be put in the teaching of certain well-known topics in various studies. Furnishes a concrete basis for studying the general rank of the question in instruction, its peculiar purposes and possibilities, and its desirable characteristics.

1280. **Hewins, Nellie P.** The doctrine of formal discipline in the light of experimental investigation. Baltimore, Warwick & York, inc., 1916. 120 p. illus. 12°. (Educational psychology monographs, no. 16)

Bibliography : p. 115-18.

1281. **Hosic, James Fleming.** Waste in education. *School and society*, 4 : 509-12, September 30, 1916.

Given before the Department of classroom teachers of the National education association, July 6, 1916.

1282. **Temple, W.** The objects and methods of education. *School and society*, 4 : 471-85, October 14, 1916.

Address of the president of the educational science section of the British association for the advancement of science, Newcastle-on-Tyne, 1916.

EDUCATIONAL PSYCHOLOGY: CHILD STUDY.

1283. **Anderson, Homer Willard.** Measuring primary reading in the Dubuque schools. The Harris-Anderson tests. [Dubuque, Ia., 1916] 23 p. 12°.

1284. ———. A study of handwriting in the public schools of Dubuque, Iowa. 1916. James H. Harris, superintendent of schools; H. W. Anderson, director of school measurements. [Dubuque, Ia., 1916] [11] p. tables, diags. 8°.

The samples were gathered under the direction of Superintendent Harris and Mr. Anderson, and judged for quality on the Ayres scale by Mr. Anderson. cf. p. [2]

1285. ——— and **Hilliard, George H.** The standardization of certain mental tests for ten-year-old children. *Journal of educational psychology*, 7 : 400-13, September 1916.

A study from the Educational psychology seminar, 1914-1915, University of Iowa.

"The tests employed were cancellation of A's, immediate memory for a group of pictures, opposites, association of numbers with geometrical forms, linguistic invention, Binet's rectangle test, selective judgment, and problem questions. The subjects were one hundred and fifteen unselected public school children."

1286. **Bell, J. Carleton.** Mental tests and college freshmen. *Journal of educational psychology*, 7 : 381-99, September 1916.

Bibliography: p. 399.

"Nine mental tests were modified for use as mass tests and given to seven hundred freshmen at the University of Texas. The article describes the modification of the tests, indicates the methods of scoring, gives percentile curves of the results, and presents the correlations of the tests with each other and with the marks obtained in class work."

1287. **Grove, C. C.** Mathematics and psychology. Mathematics teacher, 9 : 3-10, September 1916.
Continued from page 182, vol. 8, and to be continued in the next issue.
The mathematics of psychologists and the validity of their uses of its forms and processes.
1288. **Haberman, J. Victor.** The intelligence examination and evaluation; a study of the child's mind. Psychological review, 23 : 352-79, September 1916.
To be continued.
Second report, following "The intelligence examination and evaluation and a new intelligence examination sheet," in Journal of the American medical association, 65 : 399-404, July 31, 1915.
1289. **Haggerty, M. E.** Scales for reading vocabulary of primary children. Elementary school journal, 17 : 106-15, October 1916.
Results of a test, used under the writer's direction, in a number of primary grades (I to III) of the Minneapolis schools and in the training school of one of the Wisconsin State normal schools. The test was proposed by Supt. R. G. Jones (14th yearbook of the National society for the study of education) for a standard minimum vocabulary for primary reading.
1290. **Johnston, Joseph Henry.** A brief tabular history of the movement toward standardization by means of scales and tests of educational achievement in the elementary school subjects. Educational administration and supervision, 2 : 483-92, October 1916.
1291. **Martin, A. Leila.** A contribution to the standardization of the De Sanctis tests. Training school bulletin, 13 : 93-110, June 1916.
1292. **Starch, Daniel.** Educational measurements. New York, The Macmillan company, 1916. 202 p. 8°.
1293. **Stewart, S. F.** A study of physical growth and school standing of boys. Journal of educational psychology, 7 : 414-26, September 1916.
This study was made in connection with a course in experimental education under Dr. Frank N. Freeman of the University of Chicago. To him the writer is under obligations for suggestions and criticisms.
"The study deals with two hundred and seven boys of the elementary and the high schools of the University of Chicago, whose records extend over a period of from four to seven years. The article gives charts of height and weight by ages and grades, and the rank correlations between these figures and school standing."
1294. **Whitney, F. L.** Measuring tidal memory content. Elementary school journal, 17 : 116-22, October 1916.
Presents tables and charts representing an attempt (1) "to state in objective terms the fact that children invariably 'know something' of every unit of knowledge before they come into contact with it in formal school work, and (2) to measure roughly the permanent deposit and the fluctuating material in memory content."
1295. **Young, Herman H.** The Witmer formboard. Philadelphia, Pa., 1916. 93-111 p. 8°.
Reprinted from the Psychological clinic, vol. 10, no. 4, June 15, 1916.
An abstract of a thesis presented to the faculty of the graduate school of the University of Pennsylvania in partial fulfillment of the requirements for the degree of Doctor of philosophy. Bibliography: p. 110-11.

SPECIAL METHODS OF INSTRUCTION.

1296. **Howard, Claud.** The use of pictures in teaching literature. English journal, 5 : 539-43, October 1916.
1297. **Stoner, Winifred Sackville.** Manual of natural education. Indianapolis, The Bobbs-Merrill company [1916] 216 p. illus. 12°.

SPECIAL SUBJECTS OF CURRICULUM.

1298. **Bagley, William Chandler and Rugg, Harold Ordway.** The content of American history as taught in the seventh and eighth grades; an analysis of typical school textbooks. [Urbana, The University of Illinois, 1916] 59 p. 8°. (University of Illinois bulletin. vol. XIII, August 21, 1916, no. 51)
 "The textbooks represented in the study": p. 9-11.
1299. **Bartholomew, Wallace E.** Fundamental aims in the teaching of book-keeping. [New York] 1916. 4 p. 4°.
 This paper was given as an address before the Business department of the National education association, July 4, 1916; it is a reprint from the Business Journal.
1300. **Beaux, Cecilia.** What should the college A. B. course offer to the future artist? American magazine of art, 7 : 479-84, October 1916.
 A paper presented at the annual meeting of the College art association of America, held in Philadelphia, April 20-22, 1916.
1301. **Bonham, Milledge L.** Recent history: to what extent to the exclusion of other history. [Baton Rouge, La., 1916] p. [307]-318. 8°. (University bulletin, Louisiana state university. vol. VII, n. s., no. 8, August 1916)
1302. **Bradbury, Robert H.** The future of chemistry in the high school. Journal of the Franklin institute, 182 : 229-47, August 1916.
1303. **Budington, Robert A.** Some consequences of biological study. School and society, 4 : 495-503, September 30, 1916.
 An address given under the auspices of the department of biology, at Goucher college, November 5, 1915.
 In conclusion the author says that "one of the semi-inevitable consequences of a study of biology is a more easy, a more natural, a more dispassionate, and a more sane estimate of all life, in all its various degrees of organization, in all its history, and in all its accomplishments, than can otherwise be attained."
1304. **Bulletin of the University of Texas, 1916, no. 15.** English bulletin. vol. 1, no. 2, March 1916. 49 p. 8°.
 Contains: 1. T. E. Ferguson: Oral composition in school and college, p. 5-28. 2. Mary E. Johnson: English in the grades, p. 29-35. 3. A. C. Judson: Some observations on the teaching of college English, p. 36-43. 4. E. L. Bradsher: Notes on new textbooks, p. 44-49.
1305. **Chestnut, James Le C.** History from the viewpoint of the grammar-grade teacher. Education, 37 : 103-11, October 1916.
 Gives an outline of the subject. Describes the teacher's preparation, the point of classroom attack, etc.
1306. **Collins, Joseph V.** Metric reform in the United States. Educational review, 52 : 265-71, October 1916.
 Says that by comparison of American with foreign programs of studies, it is easy "to show that American children need about 7/4 as much time to learn their arithmetic as German and French children need." Advocates metric system.
1307. **Dynes, Sarah A.** Socializing the child; a guide to the teaching of history in the primary grades. Boston, New York [etc.] Silver, Burdett, and company [1916] 302 p. 12°.
 "List of all references mentioned in the text": p. 282-94.
1308. **English, Harry.** College preparation: what is its effect on what you teach and how you teach it? Mathematics teacher, 9 : 21-32, September 1916.
 Deals with high-school mathematics.

1309. **Goodell, Thomas D.** Greek in the new university. *Yale review*, 6 : 150-66, October 1916.

Makes this forecast: "Greek will be learned by few, as it has always been. But they will learn it better, and with less of painful waste, than we and our predecessors; they will be more deeply influenced . . . they will be among the leading minds, the minds that will guide the generation next beyond."

1310. **Hunt, Everett Lee.** General specialists. *Quarterly journal of public speaking*, 2 : 253-63, July 1916.

Discusses the question of specialists in the department of public speaking. The writer thinks that narrow specialization will not produce the best results.

1311. **Jessup, Walter A. and Coffman, Lotus D.** The supervision of arithmetic. New York, The Macmillan company, 1916. 225 p. 12°.

Gives the supervisor certain criteria for judging his course of study in arithmetic, also certain tests for measuring the attainments of his pupils.

1312. **Keller, A. G.** The case of Latin. *Yale review*, 6 : 135-49, October 1916.

Writer concludes that both Latin and mathematics, in particular Latin, "should be sustained pending the rise of a substitute of equal or superior disciplinary value along similar lines. In this rôle of a disciplinary study Latin shows itself worth the cost."

1313. **Llewelyn, E. J.** Reading in the Mt. Vernon (Indiana) city schools. *Elementary school journal*, 17 : 123-27, October 1916.

Attempts to supply motivation for study and for interpretation of the printed page by means of questions and suggestions given by the teacher either orally or written upon the blackboard.

1314. **McLaughlin, Andrew C.** Teaching war and peace in American history. *History teacher's magazine*, 7 : 259-64, October 1916.

Reprinted by permission from "The Journal of the New York state teachers' association," vol. 2, p. 200. An address to the history section of the New York state teachers' association, November 1915.

1315. **Munro, William B.** Instruction in municipal government in the universities and colleges of the United States. *National municipal review*, 5 : 565-73, October 1916.

Results of questionnaire sent by the education committee of the National municipal league to American colleges and universities. Says that the teaching of municipal government is more effective than ever before. Gives table of statistics.

1316. The place of mathematics in the "secondary schools of tomorrow." *School science and mathematics*, 16 : 608-16, October 1916.

This tentative report of a committee of mathematics teachers in Chicago is published as a basis for further investigation and deliberation.

1317. **Porterfield, Allen Wilson.** The study of German in the future. *School and society*, 4 : 473-80, September 23, 1916.

Shows why a knowledge of German has been a valuable asset to the American student of the past and then speaks of the future of the study of German in this country.

1318. **Price, Andrew.** Teaching thrift as a branch of public instruction. *Education*, 37 : 116-21, October 1916.

Advocates school savings banks as a most valuable aid in education. Gives statistics of savings in foreign countries.

1319. **Rabourn, Sara B. F.** "Boost mathematics." *School science and mathematics*, 16 : 595-602, October 1916.

The first part of the article aims to inspire confidence in high-school teachers of mathematics for their subject, and to give them courage to "boost" the wonderful superiority of the mathematical province; the second part gives devices for stimulating the interest of pupils.

- 1320: **Smith, Irving W.** The future of Latin and Greek. *Education*, 37 : 95-102, October 1916.

Writer declares that a well-rounded education should contain both "the humanities and the utilities, the word of God and bread." A compromise should then be made between the extreme classicists and the ultra vocationalists.

1321. **Spilman, Louise.** Composition in the first and second years of high school. *English journal*, 5 : 556-68, October 1916.

Gives typical compositions by pupils. Takes issue with Dr. Judd's criticisms on teaching of English.

KINDERGARTEN AND PRIMARY SCHOOL.

1322. **Barbour, Marion B.** The influences of modern education upon handwork for young children. *Kindergarten-primary magazine*, 29 : 48-51, October 1916.

Gives "a few of the possibilities of handwork with young children, meeting the requirements of child psychology and hygiene, and demanding of the child his interest, effort, and reflective thought."

1323. **Hill, Mary D.** The educational values which the child carries over from the kindergarten into the primary grades. *Kindergarten-primary magazine*, 29 : 53-56, October 1916.

Paper before the joint meeting of the elementary and kindergarten departments of the National education association.

RURAL EDUCATION.

1324. **Ayer, Fred Carlton and Morse, Hermann N.** A rural survey of Lane County, Oregon. [Eugene, Oreg.] Extension division, University of Oregon [1916] 109 p. illus., maps, diagrs. 8°. (The University of Oregon bulletin. n. s., vol. XIII, no. 14, August 15, 1916)

The survey of Lane County, Oregon, is the third survey made by the Presbyterian country church work on the Pacific coast. It was made in cooperation with the University of Oregon and under the local auspices of the committee representing the Interdenominational conference.

1325. **Bricker, Garland A.** The function of the rural teacher. *Progressive teacher*, 22 : 31-32, October 1916.

The first of a series of articles on rural education for teachers.

1326. **Grote, Caroline.** The Illinois rural school survey. *Illinois teacher*, 5 : 27-33, October 1916.

To be continued.

In the rural school survey of Illinois the writer was assigned the rural schools of the Military Tract, a territory comprising 18 counties, wholly or partly, and more than 3,000 schools. The conditions brought to light by the survey are given in this article.

1327. **Harrington, J. B.** Hot lunches for rural schools. *Forecast*, 12 : 263-67, October 1916.

1328. **Mayne, D. D.** Farm boy cavaliers. *School education*, 36 : 3-4, October 1916.

The Farm boy cavaliers is an organization that plans to do for the boy on the farm what the Boy scouts are doing for the boy in the city.

1329. **O'Shea, M. V.** The morals of the country school. *Wisconsin journal of education*, 48 : 213-15, October 1916.

The evil influences of the rural school and what can be done to counteract them.

SECONDARY EDUCATION.

1330. **Abelson, Joseph.** A bibliography of the junior high school. *Education*, 37 : 122-29, October 1916.
1331. **Asplund, Rupert F.** The high school and after. *New Mexico journal of education*, 13 : 9-12, October 1916.
Discusses the purposes and possible results of our high school and its place in modern education.
1332. **Baker, Thomas Stockham.** The place and mission of the private school. *Educational foundations*, 28 : 23-30, September 1916.
The writer believes that there will be a decrease in the number of private day schools but an increase in the number of private boarding schools. The reasons that the private schools are likely to increase in importance in this country are, first, the growing utilitarian character of the public schools, and, second, the growing complexity of social conditions.
1333. **Cox, Philip W. L.** The Solvay junior high school. *American education*, 20 : 80-86, October 1916.
Discusses the content of the curriculum, the readjustment grade, helping the pupils to help themselves, etc.
1334. **Cubberley, Ellwood P.** Some recent developments in secondary education in California. *Education*, 37 : 77-85, October 1916.
Describes the growth of the California secondary schools; "their noteworthy means of support, the system employed for the certification of teachers," etc. Makes a plea for the junior college.
1335. **Griffin, Orwin Bradford.** The high-school principal. *American school board journal*, 53 : 17-18, 73-74, October 1916.
The man, his duties and opportunities within the school and outside of it.
1336. **Luis-André, Eloy.** La educación de la adolescencia; estudio crítico del estado de la segunda enseñanza y de sus reformas más urgentes. Madrid, Imp. de "Alrededor del mundo," 1916. 256 p. 8°.
1337. **Martin, A. S.** A high-school day of six hours and directed study. *American school board journal*, 53 : 23, 71-72, October 1916.
Gives the reasons for a longer school day in the high schools and tells of the experiment in Norristown, Pa., of the long school day and directed study.
1338. **Sanberg, G. H.** The high-school student's point of view. *American school-master*, 9 : 315-21, September 1916.
Gives data on the home life of high-school pupils and their attitude toward the school obtained from replies to a questionnaire given to the high-school pupils of Crookston, Minn.
1339. **Sisson, Edward O.** Some characteristics of the high-school movement in three far northwestern states. *Inter-mountain educator*, 12 : 11-17, September 1916.
Tells of the high-school movement in Washington, Oregon, and Idaho. "A plain tale of the western high school, its natural history, its environment, its aims and spirit."

TEACHERS: TRAINING AND PROFESSIONAL STATUS.

1340. **Baker, George M.** Evidences of teaching ability. *Kentucky high school quarterly*, 2 : 16-26, October 1916.
Takes up nine tangible evidences of teaching ability: scholarship, ability to properly take and make effective use of constructive criticism, tendency to keep growing mentally, objective rather than subjective attitude of mind, ability to harmonize, physical strength, resourcefulness, disposition, and good common sense.

1341. **Brown, George A.** The responsibility of school boards for the transient teacher. School and home education, 36 : 36-37, October 1916.

The writer says that teachers remain in school work an average of more than five years. In this time they teach in three or four different schools. He thinks the school board is responsible for this state of affairs.

1342. **Dewey, John.** Professional organization of teachers. American teacher, 5 : 99-101, September 1916.

From an address delivered at a mass meeting called by the American federation of teachers during the National education association convention, New York, July 6, 1916.

1343. **Hall-Quest, Alfred L.** The teacher's personality and efficiency. The importance of personality. Virginia journal of education, 10 : 26-29, September 1916.

1344. **Hart, Joseph K.** Can a college department of education become scientific? Scientific monthly, 3 : 377-84, October 1916.

Thinks that the great field of research in educational theory may yet come to be found in the social sources of educational experience. Presents a program.

1345. **Keating, J. F.** Tenure of teachers. Better schools, 2 : 172-75, September 1916.

Advocates permanency of tenure throughout the school system.

1346. **Stanley, Edward M.** Freedom in our schools. Industrial economist, 2 : 5-8, August 1916.

Advance pages.

In conclusion the writer says: "The activities of union leaders have been very great, but the schools should be free from their work, and the people should see to it that the classroom is kept free from the presence of the agitator, either in person or through his agent, the teacher, who is a member of a labor union."

HIGHER EDUCATION.

1347. The Christian college. New York, Cincinnati, The Methodist book concern [1916] 78 p. 12°.

CONTENTS.—1. The ideals and aims of the Christian college, by Herbert Welch. 2. The importance of the Christian college as a factor in the making of America, by Henry Churchill King. 3. The product of the Christian college in men and movements, by Thomas Nicholson.

1348. **Dexter, Franklin Bowditch, ed.** Documentary history of Yale university, under the original charter of the Collegiate school of Connecticut, 1701-1745. New Haven, Yale university press, 1916. 382 p. 4°.

1349. Educational biases. Unpopular review, 6 : 132-44, July-September 1916.

Writer condemns an anti-patriotic bias in favor of foreign educational systems. It is well if some of the excellences of a foreign system can be adapted to the local stock, but the one to do the adjusting must know that stock.

1350. **Fernald, Merritt Caldwell.** History of the Maine state college and the University of Maine. Orono, Me., University of Maine, 1916. 450 p. incl. front., plates, ports. 8°.

1351. **Hadley, Arthur T.** President Hadley's matriculation sermon, delivered in Woolsey Hall, Yale university, Sunday, October 1, 1916. Yale alumni weekly, 26 : 62-63, October 6, 1916.

President Hadley says self-control, intelligence, courtesy, devotion are the qualities which are to be learned at Yale if the course of study is to prepare for the larger duties of citizenship as well as the narrower ones of our several callings and professions.

1352. **Jastrow, Joseph.** Ten years of the Carnegie foundation. School and society, 4 : 533-51, October 7, 1916.

Considers the scope of the Foundation, its contribution to educational progress, and the management of the retiring allowances.

"While the reviewer aims to present opinion as objectively as the outlook which he commands makes possible, the individual angle as well as the personal organ of vision determines the perspective."

1353. **Patterson, John L.** Municipal universities in the United States. National municipal review, 5 : 553-64, October 1916.

Reviews the work of the municipal universities in this country, and commends the modern movement in the United States and abroad to develop such schools for the higher education of all classes of citizens.

1354. **Schumacher, Matthew.** What next? Catholic educational review, 12 : 204-10, October 1916.

An address at the opening meeting of the college department of the Catholic educational association on the standardization of Catholic colleges.

1355. **Shields, Thomas Edward.** Standardization of Catholic colleges. Catholic educational review, 12 : 193-203, October 1916.

1356. **Sprague, Homer B.** President Sprague's administration of the University of North Dakota. Quarterly journal of the University of North Dakota, 7 : 3-28, October 1916.

The University of North Dakota from 1887-1891.

SCHOOL ADMINISTRATION.

1357. **Anderson, D. A.** The efficiency expert in education. Educational administration and supervision, 2 : 477-82, October 1916.

The duties and responsibilities of the efficiency expert in our school systems.

1358. **Case, Hiram C.** The uniform system for recording disbursements for school purposes as prescribed for New York state. American school board journal, 53 : 24-26, 68, October 1916.

1359. **Johnson, Harriet M.** The visiting teacher in New York city; a statement of the function and an analysis of the work of the visiting teacher staff of the Public education association from 1912 to 1915 inclusive. [New York] Public education association of the city of New York, 1916. 84 p. 8°.

1360. **Miller, William T.** A survey from within. American school board journal, 53 : 16, 73, October 1916.

Suggestions for a school survey by persons actually engaged in administering or teaching in the system they are examining.

1361. **Probst, Ella M.** The contributions of scientific studies to the value of supervision. School education, 36 : 7-9, October 1916.

The advantages of co-operative research and what experimental investigation has contributed to the field of supervision.

1362. **Savage, L. N.** How should superintendents measure the work of teachers. Virginia journal of education, 10 : 9-13, September 1916.

Address delivered before Richmond conference of division superintendents, July 5, 1916.

1363. **Strayer, George Drayton.** Some problems in city school administration. Yonkers-on-Hudson, N. Y., World book company, 1916. 234 p. illus. 8°. (School efficiency series, ed. by P. H. Hanus)

Report of the Butte school survey.

1364. **Voorhees, Harvey Cortlandt.** The law of the public school system of the United States. Boston, Little, Brown, and company, 1916. lvii, 429 p. 8°.

1365. **Wirt, William Albert.** The official Wirt reports to the Board of education of New York city; comprising the official reports upon Public school 89, Brooklyn, and public schools 28, 2, 42, 8, 50, 44, 5, 53, 40, 32, 4 and 45, the Bronx, and an appendix showing the more extensive reorganization proposed. With an introduction by Howard W. Nudd. [New York] Public education association of the city of New York, 1916. 56 p. tables. 8°.

SCHOOL MANAGEMENT.

1366. **Du Shane, Donald.** The intermediate grades and departmentalization. *Elementary school journal*, 17 : 89-105, October 1916.

Suggests reforms. The writer expresses the hope that the time is near when "the tragedy of a school mortality of 50 per cent below the eighth grade will be deeply enough felt to secure a more purposeful school training of this important group of future American citizens." To be continued.

1367. **Mackie, Ransom A.** Educators on election in education. *Northwest journal of education*, 28 : 80-85, October 1916.

Advocates the elective system and gives some of its advantages.

SCHOOL HYGIENE AND SANITATION.

1368. **Baker, S. Josephine.** The control of communicable diseases in schools. *American journal of public health*, 6 : 1078-82, October 1916.

Read before a general session of the American public health association, Rochester, N. Y., September 10, 1915.

Gives the working program which has been followed by the Bureau of child hygiene of New York city for the past six years. Emphasizes the necessity of keeping children in school rather than closing schools in the presence of communicable diseases in a community.

1369. **Faulkner, James P.** Teaching health in the public schools. *Forward*, 1 : 29-36, July 1916.

Gives an outline of health instruction as developed during several years of experience in public health work in Kentucky.

1370. **Irwin, R. B.** Classes for the conservation of vision. *Ohio teacher*, 37 : 52-54, September 1916.

Describes the class opened in Cleveland three years ago for children having serious defects of vision.

1371. **Kingale, Sherman C.** Open-air schools and open-window rooms—how to build and equip them. *Journal of the outdoor life*, 13 : 310-20, October 1916.

Concluded from September number. Gives plans of schools in various cities. Illustrated.

1372. **Redway, Jacques W.** The air of school buildings. *Medical times*, 44 : 309-10, October 1916.

Among other things the writer says that the humidifying of the air of school rooms is one of the most important problems in the sanitary regulation of school buildings.

1373. **Swinerton, George G.** Medical supervision of country children. *School education*, 36 : 3-5, September 1916.

Writ. of the school physician in Koochiching county, Minnesota.

1374. **Tigert, John J.** The relation of defective vision to retardation. *Kentucky high school quarterly*, 2 : 3-12, October 1916.

Bibliography: p. 12.

1375. **Tomkins, Ernest.** What will the school board do with stammering? *American school board journal*, 53 : 30, 62-63, October 1916.

Speaks of the infectiousness of stammering and says that the school board should simply prohibit stammering on school property and require the stammering child to wait and calm himself, so that he can speak fluently, or to write or make signs or remain silent.

PHYSICAL TRAINING.

1376. **Ehler, George W.** Developing physical and moral vitality. A rational scheme. Playground, 10 : 232-44, October 1916.

Outlines a plan for an average elementary school with one or more rooms in each grammar grade with one hundred or more boys and as many girls in the four grades.

This is the third in a series of three articles dealing with the need for an adequate and rational system of physical education.

1377. **McCord, Clinton P.** State-wide physical training. American education, 20 : 76-79, October 1916.

The new physical training law of New York state, its general purpose and its main features.

1378. **Warden, Randall D.** Physical training. Mind and body, 23 : 246-49, October 1916.

Why it should be recognized as a necessary subject in a child's training for life, and why it should receive time and attention equal to that given to any of the other curricula subjects.

Read at the meeting of the American physical education association, Cincinnati, April 19-22, 1916.

1379. **Ziegler, Carl.** The preparation of the director of physical education. Mind and body, 23 : 210-17, September 1916.

Read at the convention of the American physical education association, Cincinnati, April 1916.

PLAY AND PLAYGROUNDS.

1380. **Curtis, Henry S.** Play and education. Teaching, 2 : 6-17, September 15, 1916.

Discusses the subject under the following headings: The message of the play movement to the teacher, Significance of the play movement, Play and recreation in the open country, The school as a social center.

SOCIAL ASPECTS OF EDUCATION.

1381. **Arrick, Clifford.** Recreational and educational activities of the Chicago telephone company employees. Social service review, 4 : 13-15, September 1916.

1382. **Corson, O. T.** The public school not a substitute for the home. Ohio educational monthly, 65 : 497-99, September 1916.

Says that the school should not be expected to introduce card games, pool tables, and dancing in order to counteract the evil influences outside the school, resulting from the indifference of parents. The school should always cooperate with the home, but it was never intended as a substitute for the home.

1383. **Wisconsin.** Department of education. Suggestive studies of school conditions; an outlined study in school problems for women's clubs, parent-teacher associations and community organizations. Madison, Wis., 1916. 101 p. illus. 8°.

Prepared by Janet R. Rankin, school service secretary, State department of education.

CHILD WELFARE.

1384. **Gibson, H. W.** Boyology; or, Boy analysis. New York [etc.] Association press, 1916. 294 p. front. 16°. (*On cover*: Boy life series)

Bibliography: p. 260-80.

1385. **Koch, Felix J.** Having the school children help in child welfare. Child-welfare magazine, 11 : 42-45, October 1916.

Unique toy-repair shops and toy factories, run by the boys and girls, in Cincinnati, for poor children.

MORAL EDUCATION.

1386. **Davis, Jesse B.** Moral training and instruction in high schools. Religious education, 11 : 394-402, October 1916.

A survey of progress since 1911 in the high schools.

1387. **Fisher, Mrs. Dorothea Frances (Canfield).** Self-reliance; a practical and informal discussion of methods of teaching self-reliance, initiative and responsibility to modern children. Indianapolis, The Bobbs-Merrill company [1916] 243 p. 12°. (Childhood and youth series)

Contains bibliographies.

RELIGIOUS EDUCATION.

1388. **Brown, Arlo Ayres.** Primer of teacher training. New York, Cincinnati, The Methodist book concern [1916] 168 p. 16°.
1389. **Brown, Frank L.** The Sunday school situation in China, Korea, and Japan. International review of missions (Edinburgh) 5 : 614-27, October 1916.
1390. **Hartshorne, Hugh.** Worship in connection with week-day religious instruction. Religious education, 11 : 419-34, October 1916.
1391. **Molloy, M. A.** The Winona plan for parochial schools. America, 15 : 625-26, October 7, 1916.

The Winona plan for parochial schools plans to take the rulings of the Minnesota State department of education with reference to the standardization of schools and adapt them as far as advisable to the parochial schools of the diocese.

MANUAL AND VOCATIONAL TRAINING.

1392. **Eastern arts association.** Proceedings seventh annual meeting, Springfield, Mass., April 20-22, 1916. 219 p. 8°. (Fred P. Reagle, secretary, Montclair, N. J.)

Contains: 1. David Snedden: Problems of art education, p. 7-23. 2. A new development in art training. An account of the Art high school department of the Ethical culture school, p. 24-33. 3. A. E. Dodd: What national aid to vocational education means to teachers of the arts, p. 36-42. 4. F. G. Bonser: Industrial education in present school problems, p. 43-51. 5. Sallie B. Tannahill: Art in lettering—selection of material and application to school problems, p. 52-62. 6. Helen R. Norton: What co-operation of the art school with the department store means to the public, p. 72-77. 7. F. E. Mathewson: The point of view. Some pertinent questions concerning industrial courses in high schools, p. 78-84. 8. K. V. Carman: Industrial work as a basis for other school subjects, p. 85-94. 9. W. R. Ward: The time factor in manual training in the elementary school, p. 95-99. 10. E. B. Kent: Some successful experiments in manual training, p. 100-106. 11. O. D. Evans: Compulsory continuation schools, p. 108-29. 12. R. O. Small: Abstract on present phases of vocational education in Massachusetts, p. 130-33. 13. W. E. Grady: The Ettinger plan of prevocational training, p. 134-40. 14. F. H. Perkins: Possibilities in industrial training for mentally deficient girls, p. 141-44. 15. Marie Sayles: Rural problem of household arts education, p. 145-49. 16. Lucia W. Dement: Illustration for elementary children, p. 158-62. 17. Final report of the committee on time allowance for the manual arts, p. 176-79.

1393. **Crouch, Calvin Henry.** Vocational training. Quarterly journal of the University of North Dakota, 7 : 29-39, October 1916.

Describes briefly the Boys trades school of Milwaukee, Wis., and tells how it is turning out skilled laborers rather than unskilled laborers.

1394. **Dodd, Alvin E.** Vocational training in the Army. School and society, 4 : 585-88, October 14, 1916.

Discusses the Army bill passed by Congress containing provision for the training of soldiers while in service so that when they return to civil life they will be prepared for more effective work in the industries. Formulates a plan for carrying out the provisions of the bill.

1395. **Farnum, Royal B.** Differentiation in art training to suit individual pupils' needs. *Industrial-arts magazine*, 5 : 432-37, October 1916.
A paper read before the Department of vocational education and practical arts, National education association, New York city, July 7, 1916.
1396. **Harlan, Charles L.** Content of courses of study in handicrafts for elementary school pupils. *School education*, 36 : 6-8, September 1916.
A study of over two hundred elementary school courses.
1397. **Jensen, George Henry.** Commercial standards for woodwork in the schools. *Industrial-arts magazine*, 5 : 449-53, October 1916.
Tells of the Department of industrial arts in the Stockton (Cal.) schools, and how building equipment and general repair work about the school buildings has taken the place of the traditional form of manual training.
1398. [The Opportunity school of Denver] Child welfare bulletin (Peoria) 4 : 183-85, September 1916.
A free school for supplying special wants of boys and girls, men and women, who are working but who are held on low rungs of the ladder of success by lack of training and education.
1399. **Smith, Harry Bradley.** Establishing industrial schools. Boston, Houghton Mifflin company [1916] 167 p. 12°. (Riverside educational monographs, ed. by H. Suzzallo)
1400. A supervisor's quest for the real thing. By a supervisor of art instruction. *School-arts magazine*, 16 : 47-54, October 1916.
The story of a supervisor who resigned her position, secured employment as a regular teacher in an ungraded school in the country, and proceeded to put her theories to the test.
1401. **White, Sophie D.** Experiments in industrial education in New York city. In National society for the promotion of industrial education. Newsletter no. 9, October 1916. p. 13-31.
Reprinted from the Child labor bulletin for August 1916.
Discusses the Schneider, Ettinger, Gary plans, etc.
1402. **Winalow, Leon Loyal.** Education through industrial arts. *Ohio educational monthly*, 65 : 511-16, October 1916.
Read before the Northwestern Ohio teachers' association, Toledo, November 1915.

VOCATIONAL GUIDANCE.

1403. **Conley, C. C.** Vocational guidance. Associate teacher, 18 : 9-10, October 1916.
A brief sketch of the vocational guidance movement.
1404. **Pressey, Park.** A vocational reader. Chicago, New York, Rand McNally & company [1916] 244 p. illus. 12°.

HOME ECONOMICS.

1405. **Hamilton, A. E.** Babies in the curriculum. *Journal of heredity*, 7 : 387-94, September 1916.
Tells of a baby adopted by a girls' camp, who taught the girls more about mothercraft in a few weeks than they would have learned in as many years of the ordinary domestic science curriculum.
1406. **Read, Mary L.** The mothercraft manual. Boston, Little, Brown, and company, 1916. 440 p. illus. 12°.

COMMERCIAL EDUCATION.

1407. **Herrick, Cheesman A.** Commercial education in American secondary schools. *Educational review*, 52 : 247-64, October 1916.

Writer says that in dealing with the content of the high school commercial course "the aims should be social, both in subjects selected and in the study of these. Studies that have to do with the science of society, such as economics and civics, should have a prominent place in the secondary commercial school."

CIVIC EDUCATION.

1408. **Dunn, Arthur W.** On civic education. *Western journal of education*, 22 : 9, September 1916.

Address before the San Francisco Congress of mothers, September 1, 1916.

1409. **Leonard, Russell B.** Civics as taught in the New Bedford industrial school. *Education*, 37 : 87-94, October 1916.

Says that the work in the New Bedford school is handled with the idea of no compulsory home work; but if a boy desires to do outside study or reading he is encouraged to do so. The method used is class discussion.

MILITARY TRAINING.

1410. **Ransom, William Lynn, ed.** Military training, compulsory or volunteer; a series of addresses and papers presented at the semiannual meeting of the Academy of political science in the city of New York, May 18, 1916. New York, The Academy of political science, Columbia university, 1916. 262 p. 8°. (Proceedings . . . vol. vi, no. 4)

Contains: The schoolmaster and military training, by A. Meiklejohn, p. 171-78.

1411. **Schaeffer, Nathan C.** Education and preparedness for war. *Arizona teacher*, 6 : 17-22, 24, September 1916.

Superintendent Schaeffer is not in favor of military drill in the public schools.

1412. **U. S. General staff. War college division.** Military training in public schools. Outline of a plan for military training in the public schools of the United States, being one of a series of supplements to "A statement of a proper military policy for the United States," together with a letter of the Department of public instruction of Wyoming, submitting certain data explaining the organization and control of the Cheyenne high school cadet corps. Washington, Government printing office, 1916. 8 p. 8°. (64th Cong., 1st sess. Senate. Doc. 452)

EDUCATION OF WOMEN.

1413. **Chapin, F. Stuart.** The budgets of Smith college girls. *Quarterly publications of the American statistical association*, 15 : 149-56, n. s. no. 114, June 1916.
1414. **Ellis, Havelock.** The mind of woman. *Atlantic monthly*, 118 : 366-74, September 1916.
1415. **Kelly, Jennie E.** Standards in dress for high school girls. *Educator-journal*, 17 : 68-73, October 1916.
1416. **Patterson, Herbert P.** The logical problem of coeducation. *Education*, 37 : 112-15, October 1916.

Writer after treating the psychological and physiological differences of the sexes comes to the conclusion that "complete separation in school is quite as illogical as complete coeducation, and the pendulum must never rest at either extreme position."

NEGRO EDUCATION.

1417. **Richardson, Clement.** Examining the near illiterate. Southern workman, 45 : 546-50, October 1916.
Negro education in the South.
1418. **Sutton, W. S.** The contributions of Booker T. Washington to the education of the negro. School and society, 4 : 457-63, September 23, 1916.
An address delivered April 19, 1916, in New Orleans before the Southern conference for education and industry.

EDUCATION OF IMMIGRANTS.

1419. The literacy test for immigrants; a debate. The constructive and rebuttal speeches of the representatives of the University of Chicago . . . in the eighteenth annual contests of the Central debating league, against Michigan and Northwestern, January 21, 1916. [Chicago] The Delta sigma rho, 1916. 62 p. front. (ports.) 8°.
Bibliography: p. 57-62.
1420. **Mason, Gregory.** "Americans first"; how the people of Detroit are making Americans of the foreigners in their city. Outlook, 114 : 193-201, September 27, 1916. illus.

EDUCATION OF DEAF.

1421. **Hansen, Anders.** The education of the deaf in the Scandinavian countries in 1916. Volta review, 18 : 407-13, October 1916.
Gives tables of statistics for Denmark, Norway, and Sweden, with other material, descriptive and historical.
1422. **Love, James K.** The aural school-clinique. Volta review, 18 : 413-16, October 1916.
Conditions in Glasgow, Scotland. Taken from the Glasgow medical journal, February 1916.

EXCEPTIONAL CHILDREN.

1423. **Browne, Blanche Van Leuven.** The cripple not an invalid. Van Leuven Browne national magazine, 5 : 7-8, October 1916.
1424. **Elliott, Charles M.** Administration of the special class. American school-master, 9 : 289-303, September 1916.
Outlines the necessary steps in the administration of special classes: the selection of children, the tests to be given, the grouping of atypical children, the program, the teacher and her training, supervision of special classes, the nurse and the field worker.
1425. **Henke, Francesca A.** The retarded pupil. Primary education, 24 : 484-85, 529, October 1916.
How to handle retarded pupils, methods of discipline, method of teaching reading, etc.
1426. **Meytrott, Mrs. Cornelia B.** What shall be done for the deficient child? Training school bulletin, 13 : 115-19, September 1916.
A Monmouth county experiment in coordination.
Read before the 1916 New Jersey state conference of charities and correction.

EDUCATION EXTENSION.

1427. **Perry, Clarence Arthur.** The quicksands of wider use. Playground, 10 : 200-208, September 1916.
Considers the defects in some of the schemes of plans for the administration of community centers.

1428. **Salsar, Carl W.** Extension work in normal schools. *Educational review* 52 : 272-83, October 1916.

Writer says that by its attitude toward extension work a normal school determines largely whether "it is merely traditional in its policies or whether it is broad-gauged and aggressive." Shows what has been done by the Kansas State normal school.

LIBRARIES AND READING.

1429. **Dana, J. C. and Gardner, Blanche.** Aids in high school teaching; pictures and objects. Woodstock, Vt., The Elm tree press, 1916. 68 p. 8°. (Modern American library economy as illustrated by the Newark, N. J., Free public library, by John Cotton Dana. vol. 2, pt. XIX)
1430. **Legler, Henry E.** Library work with children: a synoptical criticism. *Public libraries*, 21 : 345-48, October 1916.
1431. **Schofield, F. A.** Outside reading in the Eugene (Oregon) high school. *English journal*, 5 : 544-48, October 1916.
Shows results of credits given for outside reading. Lists 19 of the most popular books read, etc.
1432. **Wiswell, Leon Orlando.** How to use reference books.. New York, Cincinnati [etc.] American book company [1916] 162 p. incl. front., diagr. 12°.

BUREAU OF EDUCATION: RECENT PUBLICATIONS.

1433. Accredited secondary schools in the United States; by Samuel P. Capen. Washington, 1916. 120 p. (Bulletin, 1916, no. 20)
1434. Answers to objections to the kindergarten. Prepared in the Kindergarten division, Bureau of education, in cooperation with the International kindergarten union. Washington, 1916. 4 p.
1435. Applied knowledge as a problem in negro education; by Hugh M. Browne. Washington, 1916. 6 p. (Miscellaneous publication, September 1916)
1436. Commercial education. A report on the commercial education subsection of the second Pan American scientific congress, December 1915-January 1916; by Glen Levin Swiggett. Washington, 1916. 96 p. (Bulletin, 1916, no. 25)
1437. Public facilities for educating the alien; prepared in the Division of immigrant education by F. E. Farrington. Washington, 1916. 51 p. (Bulletin, 1916, no. 18)
1438. Vocational secondary education. Prepared by the committee on vocational education of the National education association. Washington, 1916. 163 p. (Bulletin, 1916, no. 21)

BULLETIN OF THE UNITED STATES BUREAU OF EDUCATION.¹

[NOTE.—Documents marked with an asterisk (*) may be obtained only from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price indicated. Remittances should be made direct to the Superintendent of Documents in coin, currency, or money order. Stamps are not accepted. Other publications will be sent free of charge upon application to the Commissioner of Education, as long as the limited supply lasts.]

1913.

- *No. 1. Monthly record of current educational publications, January, 1913. 5 cts.
- *No. 2. Training courses for rural teachers. A. C. Monahan and R. H. Wright. 5 cts.
- *No. 3. The teaching of modern languages in the United States. Charles H. Handschin. 15 cts.
- *No. 4. Present standards of higher education in the United States. George E. MacLean. 20 cts.
- *No. 5. Monthly record of current educational publications. February, 1913. 5 cts.
- *No. 6. Agricultural instruction in high schools. C. H. Robison and F. B. Jenks. 10 cts.
- *No. 7. College entrance requirements. Clarence D. Kingsley. 15 cts.
- *No. 8. The status of rural education in the United States. A. C. Monahan. 15 cts.
- *No. 9. Consular reports on continuation schools in Prussia. 5 cts.
- *No. 11. Monthly record of current educational publications, April, 1913. 5 cts.
- *No. 12. The promotion of peace. Fannie Fern Andrews. 10 cts.
- *No. 13. Standards and tests for measuring the efficiency of schools or systems of schools. 5 cts.
- *No. 14. Agricultural instruction in secondary schools. 10 cts.
- *No. 15. Monthly record of current educational publications, May, 1913. 5 cts.
- *No. 16. Bibliography of medical inspection and health supervision. 15 cts.
- *No. 17. A trade school for girls. 10 cts.
- *No. 18. The fifteenth international congress on hygiene and demography. Fletcher B. Dresslar. 10 cts.
- *No. 19. German industrial education and its lessons for the United States. Holmes Beckwith. 15 cts.
- *No. 20. Illiteracy in the United States. 10 cts.
- *No. 21. Monthly record of current educational publications, June, 1913. 5 cts.
- *No. 22. Bibliography of industrial, vocational, and trade education. 10 cts.
- *No. 23. The Georgia club at the State Normal School, Athens, Ga., for the study of rural sociology. E. C. Branson. 10 cts.
- *No. 24. A comparison of public education in Germany and in the United States. Georg Kerschensteiner. 5 cts.
- *No. 25. Industrial education in Columbus, Ga. Roland B. Daniel. 5 cts.
- No. 26. Good roads arbor day. Susan B. Sipe.
- *No. 28. Expressions on education by American statesmen and publicists. 5 cts.
- *No. 29. Accredited secondary schools in the United States. Kendrick C. Babcock. 10 cts.
- *No. 30. Education in the South. W. Carson Ryan, Jr. 10 cts.
- *No. 31. Special features in city school systems. 10 cts.
- *No. 34. Pension systems in Great Britain. Raymond W. Sles. 10 cts.
- *No. 35. A list of books suited to a high-school library. 15 cts.
- *No. 36. Report on the work of the Bureau of Education for the natives of Alaska, 1911-12. 10 cts.
- *No. 37. Monthly record of current educational publications, October, 1913. 5 cts.
- *No. 38. Economy of time in education. 10 cts.
- *No. 40. The reorganized school playground. Henry S. Curtis. 10 cts.
- *No. 41. The reorganization of secondary education. 10 cts.
- *No. 42. An experimental rural school at Winthrop College. H. S. Browne. 10 cts.
- *No. 43. Agriculture and rural-life day; material for its observance. Eugene C. Brooks. 10 cts.
- *No. 44. Organized health work in schools. E. B. Hoag. 10 cts.
- *No. 45. Monthly record of current educational publications, November, 1913. 5 cts.
- *No. 46. Educational directory, 1913. 15 cts.
- *No. 47. Teaching material in Government publications. F. K. Noyes. 10 cts.
- *No. 48. School hygiene. W. Carson Ryan, Jr. 15 cts.
- *No. 49. The Farragut School, a Tennessee country-life high school. A. C. Monahan and Adams Phillips. 10 cts.

¹ For issues prior to 1913, see list "Available Publications of the United States Bureau of Education, October, 1916," which may be had on application. Numbers omitted are out of print.

- *No. 50. The Fitchburg plan of cooperative industrial education. M. R. McCann. 10 cts.
- *No. 51. Education of the immigrant. 10 cts.
- *No. 52. Sanitary schoolhouses. Legal requirements in Indiana and Ohio. 5 cts.
- *No. 53. Monthly record of current educational publications, December, 1913. 5 cts.
- No. 54. Consular reports on industrial education in Germany.
- No. 55. Legislation and judicial decisions relating to education, Oct. 1, 1909, to Oct. 1, 1912. James C. Boykin and William R. Hood.
- *No. 58. Educational system of rural Denmark. Harold W. Foght. 15 cts.
- No. 59. Bibliography of education for 1910-11.
- No. 60. Statistics of State universities and other institutions of higher education partially supported by the State, 1912-13.

1914.

- *No. 2. Compulsory school attendance. 15 cts.
- *No. 3. Monthly record of current educational publications, February, 1914. 5 cts.
- *No. 4. The school and the start in life. Meyer Bloomfield. 15 cts.
- *No. 5. The folk high schools of Denmark. L. L. Friend. 5 cts.
- *No. 6. Kindergartens in the United States. 20 cts.
- *No. 7. Monthly record of current educational publications, March, 1914. 5 cts.
- *No. 8. The Massachusetts home-project plan of vocational agricultural education. R. W. Stimson. 15 cts.
- No. 9. Monthly record of current educational publications, April, 1914.
- *No. 10. Physical growth and school progress. B. T. Baldwin. 25 cts.
- *No. 11. Monthly record of current educational publications, May, 1914. 5 cts.
- No. 12. Rural schoolhouses and grounds. F. B. Dresslar.
- *No. 13. Present status of drawing and art in the elementary and secondary schools of the United States. Royal B. Farnum. 85 cts.
- *No. 14. Vocational guidance. 10 cts.
- *No. 15. Monthly record of current educational publications. Index. 5 cts.
- *No. 16. The tangible rewards of teaching. James C. Boykin and Roberta King. 50 cts.
- No. 17. Sanitary survey of the schools of Orange County, Va. Roy K. Flannagan.
- *No. 18. The public-school system of Gary, Ind. William P. Burris. 15 cts.
- No. 19. University extension in the United States. Louis E. Reber.
- No. 20. The rural school and hookworm disease. J. A. Ferrell.
- *No. 21. Monthly record of current educational publications, September, 1914. 10 cts.
- No. 22. The Danish folk high schools. H. W. Foght.
- No. 23. Some trade schools in Europe. Frank L. Glynn.
- *No. 24. Danish elementary rural schools. H. W. Foght. 10 cts.
- *No. 25. Important features in rural school improvement. W. T. Hodges. 10 cts.
- *No. 26. Monthly record of current educational publications, October, 1914. 5 cts.
- *No. 27. Agricultural teaching. 15 cts.
- *No. 28. The Montessori method and the kindergarten. Elizabeth Harrison. 5 cts.
- No. 29. The kindergarten in benevolent institutions.
- No. 30. Consolidation of rural schools and transportation of pupils at public expense. A. C. Monahan.
- *No. 31. Report of the work of the Bureau of Education for the natives of Alaska. 25 cts.
- No. 32. Bibliography of the relation of secondary schools to higher education. R. L. Walkley.
- *No. 33. Music in public schools. Will Earhart. 10 cts.
- *No. 34. Library instruction in universities, colleges, and normal schools. Henry R. Evans. 5 cts.
- *No. 35. The training of teachers in England, Scotland, and Germany. Charles H. Judd. 10 cts.
- *No. 36. Education for the home—Part I. General statement. B. R. Andrews. 10 cts.
- No. 37. Education for the home—Part II. State legislation, schools, agencies. B. R. Andrews.
- *No. 38. Education for the home—Part III. Colleges and universities. B. R. Andrews. 25 cts.
- *No. 39. Education for the home—Part IV. Bibliography, list of schools. B. R. Andrews. 10 cts.
- No. 40. Care of the health of boys in Girard College, Philadelphia, Pa.
- *No. 41. Monthly record of current educational publications, November, 1914. 5 cts.
- *No. 42. Monthly record of current educational publications, December, 1914. 5 cts.
- *No. 43. Educational directory, 1914-15. 20 cts.
- *No. 44. County-unit organization for the administration of rural schools. A. C. Monahan. 10 cts.
- *No. 45. Curricula in mathematics. J. C. Brown. 10 cts.
- *No. 46. School savings banks. Mrs. Sara L. Oberholzer. 5 cts.
- No. 47. City training schools for teachers. Frank A. Manny.
- No. 48. The educational museum of the St. Louis public schools. C. G. Rathman.
- No. 49. Efficiency and preparation of rural-school teachers. H. W. Foght.
- No. 50. Statistics of State universities and State colleges.

* See note at top of p. i.

1915.

- *No. 1. Cooking in the vocational school. Iris P. O'Leary. 5 cts.
- *No. 2. Monthly record of current educational publications, January, 1915. 5 cts.
- *No. 3. Monthly record of current educational publications, February, 1915. 5 cts.
- *No. 4. The health of school children. W. H. Heck. 15 cts.
- No. 5. Organization of State departments of education. A. C. Monahan.
- *No. 6. A study of the colleges and high schools in the North Central Association. 15 cts.
- No. 7. Accredited secondary schools in the United States. Samuel P. Capen.
- No. 8. Present status of the honor system in colleges and universities. Bird T. Baldwin.
- *No. 9. Monthly record of current educational publications, March, 1915. 5 cts.
- *No. 10. Monthly record of current educational publications, April, 1915. 5 cts.
- No. 11. A statistical study of the public-school systems of the southern Appalachian Mountains. Norman Frost.
- No. 12. History of public-school education in Alabama. Stephen B. Weeks.
- *No. 13. The schoolhouse as the polling place. E. J. Ward. 5 cts.
- *No. 14. Monthly record of current educational publications, May, 1915. 5 cts.
- No. 15. Monthly record of current educational publications. Index, February, 1914-January, 1915.
- *No. 16. Monthly record of current educational publications, June, 1915. 5 cts.
- No. 17. Civic education in elementary schools as illustrated in Indianapolis. A. W. Dunn.
- No. 18. Legal education in Great Britain. H. S. Richards.
- *No. 19. Statistics of manual training, agricultural, and industrial schools. 10 cts.
- *No. 20. The rural-school system of Minnesota. H. W. Foght. 20 cts.
- *No. 21. Schoolhouse sanitation. William A. Cook. 10 cts.
- *No. 22. State versus local control of elementary education. T. L. MacDowell. 10 cts.
- *No. 23. The teaching of community civics. 10 cts.
- No. 24. Adjustment between kindergarten and first grade. Luella A. Palmer.
- No. 25. Public, society, and school libraries.
- No. 26. Secondary schools in the States of Central America, South America, and the West Indies. Anna T. Smith.
- No. 27. Opportunities for foreign students at colleges and universities in the United States. Samuel P. Capen.
- No. 28. The extension of public education. Clarence A. Perry.
- No. 29. The truant problem and the parental school. James S. Hiatt.
- No. 30. Bibliography of education for 1911-12.
- *No. 31. A comparative study of the salaries of teachers and school officers. 15 cts.
- No. 32. The school system of Ontario. H. W. Foght.
- No. 33. Problems of vocational education in Germany. George E. Myers.
- *No. 34. Monthly record of current educational publications, September, 1915. 5 cts.
- *No. 35. Mathematics in the lower and middle commercial and industrial schools. E. H. Taylor. 15 cents.
- No. 36. Free textbooks and State uniformity. A. C. Monahan.
- No. 37. Some foreign educational surveys. James Mahoney.
- No. 38. The university and the municipality.
- No. 39. The training of elementary school teachers in mathematics. I. L. Kandel.
- No. 40. Monthly record of current educational publications, October, 1915.
- *No. 41. Significant school-extension records. Clarence A. Perry. 5 cts.
- *No. 42. Advancement of the teacher with the class. James Mahoney. 10 cts.
- No. 43. Educational directory, 1915-16.
- *No. 44. School administration in the smaller cities. W. S. Deffenbaugh. 25 cts.
- No. 45. The Danish people's high school. Martin Hegland.
- No. 46. Monthly record of current educational publications, November, 1915.
- *No. 47. Digest of State laws relating to public education. Hood, Weeks, and Ford. 60 cts.
- No. 48. Report on the work of the Bureau of Education for the natives of Alaska, 1913-14.
- No. 49. Monthly record of current educational publications, December, 1915.
- No. 50. Health of school children. W. H. Heck.

1916.

- No. 1. Education exhibits at the Panama-Pacific International Exposition. W. Carson Ryan, jr.
- No. 2. Agricultural and rural education at the Panama-Pacific International Exposition, H. W. Foght.
- No. 3. Placement of children in the elementary grades. K. J. Hoke.
- No. 4. Monthly record of current educational publications, January, 1916.
- No. 5. Kindergarten training schools.
- No. 6. Statistics of State universities and State colleges.
- No. 7. Monthly record of current educational publications, February, 1916.

* See note at top of p. i.

- No. 8. Reorganization of the public-school system. F. F. Bunker.
No. 9. Monthly record of current educational publications, March, 1916.
No. 10. Needed changes in secondary education. Charles W. Elliot and Ernesto Nelson.
No. 11. Monthly record of current educational publications, April, 1916.
No. 12. Problems involved in standardizing State normal schools. C. H. Judd and S. C. Parker.
*No. 13. Monthly record of current educational publications, May, 1916. 5 cts.
No. 14. State pension systems for public-school teachers. W. Carson Ryan, jr., and Roberta King.
*No. 15. Monthly record of current educational publications—Index, February, 1915—January, 1916. 5 cts.
No. 16. Reorganizing a county system of rural schools. J. Harold Williams.
No. 17. The Wisconsin county training schools for teachers in rural schools. W. E. Larson.
No. 18. Public facilities for educating the alien. F. E. Farrington.
No. 19. State higher educational institutions of Iowa.
No. 20. Accredited secondary schools in the United States. Samuel P. Capen.
No. 21. Vocational secondary education.
No. 22. Monthly record of current educational publications, September, 1916.
-

* See note at top of p. I.



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 32

SOME FACTS CONCERNING MANUAL
ARTS AND HOMEMAKING SUBJECTS
IN ONE HUNDRED FIFTY-SIX CITIES

BY

JOSEPH C. PARK

DIRECTOR OF MANUAL ARTS, STATE NORMAL AND
TRAINING SCHOOL, OSWEGO, N. Y.

AND

CHARLES L. HARLAN

UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINN.



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY

CONTENTS

	Page.
Condition of vocational and industrial education.....	5
Aims.....	8
Nature of the work.....	9
Time given to subjects.....	12
Methods employed.....	17
Disposal of products.....	20
General summary.....	23

SOME FACTS CONCERNING MANUAL ARTS AND HOME- MAKING SUBJECTS IN 156 CITIES.

The confused and chaotic condition which characterizes vocational and industrial education at the present time is evidence of the fact that certain far-reaching and fundamental adjustments are going on in the educational world. These adjustments involve, on the one hand, the school in all of its aspects and at all of its stages, and, on the other hand, the various industries and occupations with all of their social and economic implications. No one seems to know with any degree of certainty what solution the problem demands; nor is anyone able to predict with precision and accuracy what the outcome of the movement may be. Many interesting experiments have been and are now being carried on for the purpose of meeting present needs and satisfying various demands, but the problem in the large seems little nearer a satisfactory solution than when the experimentation began.

Educational, vocational, industrial, and social surveys are becoming common. These set forth the facts and make clear the existing conditions in each of these fields of activity. If carefully and scientifically conducted, the findings of survey commissions are valuable in determining needs and policies. It is on the basis of present practices and existing conditions that the needs and policies of the future must be determined.

It was the purpose of this investigation to determine the existing conditions and practices in the manual arts and homemaking subjects with reference to—

1. Nature and character of the work in the different grades and in the high school.
2. The number of minutes per week and the relative amount of time devoted to these subjects.
3. Methods used and their adaptation to age and grade of pupils.
4. Nature and amount of correlation with other subjects.
5. Methods of disposing of finished products of shops and kitchens.
6. The dominant aims in the teaching of these subjects and the prevalence of each.
7. Enrollment in vocational courses in elementary and in high schools.
8. Cost per pupil in different schools and cities.
9. Percentage of pupils entering work for which manual arts and homemaking courses prepared them.
10. Norms and standards of practice in all the above.

The method used in collecting the data was that of the questionnaire. A copy of the form used is here reproduced.

QUESTIONNAIRE ON THE TEACHING OF THE MANUAL ARTS, HOMEMAKING, AND VOCATIONAL SUBJECTS.

Name.....City.....State.....

1. Underline the courses offered in your schools and state the number of weeks in each course grade by grade.

GRADES.

	1	2	3	4	5	6	7	8	I	II	III	IV
Paper folding, cutting, etc.												
Cardboard construction.												
Raffia and basketry.												
Weaving and textiles.												
Knife work, coping saw, etc.												
Clay work, plasticine, etc.												
Leather work, etc.												
Art metal work.												
Jewelry.												
Printing and bookbinding.												
Joinery, cabinetmaking, carpentry.												
Wood turning, pattern making.												
Foundry.												
Machine shop.												
Forge shop.												
Concrete construction.												
Cooking.												
Sewing.												
Millinery.												

2. State the number of periods per week and total number of minutes per week given to manual arts and homemaking in the grades.

GRADES.

	1	2	3	4	5	6	7	8	I	II	III	IV
Periods per week.												
Total minutes per week to manual arts and homemaking.												
Total minutes per week to all subjects.												

3. Does the work consist of—

- [a] Systematic graded exercises?..... In what grades?.....
 [b] Individual projects selected by pupils?..... In what grades?.....
 [c] Cooperative projects selected by class?..... In what grades?.....
 [d] Projects expressive of work in history, reading, language, or other subjects?.....
 In what grades?.....

[Reverse of Questionnaire.]

4. Is the work in manual arts and homemaking correlated with the work in the subjects named below? State grade and subjects in form below.

GRADES.

	1	2	3	4	5	6	7	8	I	II	III	IV
Drawing												
Language												
History												
Reading												
Arithmetic												
Other subjects												

5. What disposal is made of the finished product?

- [a] Kept by pupils?..... In what grades?
 [b] Becomes property of the school?..... In what grade?
 [c] Sold by school or pupils?..... In what grades?
 [d] Other methods.....

6. Underline *twice* the aim which dominates your teaching of the manual arts and home-making subjects, *once* the one which you consider of least importance.

- [a] Cultural aim. [General: nonvocational, disciplinary, etc.]
 [b] Vocational aim. [To give knowledge and skill of direct value upon immediate entrance into the trades or vocations.]
 [c] Prevocational aim. [Giving knowledge and experiences of various occupations, materials, tools, etc.]
 [d] Other aims.....

7. What percentage of pupils, after leaving school, enter directly into the vocations for which the manual arts and home-making subjects prepared them?

8. Please state as accurately as possible:

- [a] The value of the equipment of the shops and laboratories used for manual arts and home-making.....
 [b] The annual cost [last year] of supplying the manual arts and home-making courses [this includes teachers' salaries, materials, etc., but not new equipment].....
 In the elementary schools?
 In the high schools?
 [c] The total annual enrollment in manual arts and home-making courses:
 In the elementary school.....
 In the high school.....

Give below any additional information which you may consider important.....

Responses were received from 156 superintendents, supervisors, and teachers in 39 States, furnishing usable returns from 156 city school systems. Of these cities, 13 offered no work in the manual arts and home-making subjects, leaving 143 cities reporting in full or in part on the conditions considered in the questionnaire.

The data on topics 4, 7, and 8 were so incomplete and unreliable that they are eliminated from this report.¹

¹ The sources of error in the data are not numerous or serious, and great care has been taken in classifying and treating the returns, so that the results may be regarded as fairly reliable. It must be remembered, in interpreting the data, that the returns are for school systems and not for schools or pupils.

. AIMS.

In the preparation of manual arts or home-making courses, and in the teaching of these subjects, some aim or purpose in the mind of the superintendent or supervisor dominates the selection of materials and the choice of methods to be used. It is quite possible that the aims or purposes may be complex and not clearly differentiated, and that no one aim predominates. It is more likely, however, that there is some one aim which outweighs all others, but which does not necessarily exclude all others. The nature of the work, its distribution throughout the grades, and the methods of presenting it are very largely determined by the purposes to be accomplished. A classification of aims, then, may help to discover the trend of vocational education in so far as it concerns manual arts and home-making subjects.

In the questionnaire the aims were arbitrarily classified as cultural, vocational, and prevocational, and an explanation was attached to each of these terms. The superintendents and supervisors making reply were asked to underline once the dominant aim, and twice the one of least importance. A summary of the results is given in Table 1.

TABLE 1.—*Aims as arranged by 112 superintendents, supervisors, and teachers (44 cities not reporting).*

	Dominant.		Secondary importance.		Least importance.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Cultural.....	44	39	25	22	43	38
Vocational.....	12	11	45	40	55	49
Prevocational.....	56	50	42	38	14	13
	112	100	112	100	112	100

The significant fact to be gained from Table 1 is that there is no general agreement as to the aim in presenting these subjects. The prevocational aim predominates in one-half of the schools, while the vocational aim ranks first in importance in only 11 per cent of the cities studied. There is some evidence, though not conclusive, that the present elementary and secondary schools are only incidentally vocational schools. The cultural aim ranks second as a dominant aim in a sufficient number of cities to indicate that the manual arts and homemaking subjects are still regarded largely as cultural and disciplinary subjects. Figure 1 represents graphically the reports of the 112 cities.

NATURE OF THE WORK.

The kind and variety of the work offered afford a partial indication of the extent to which the aims are being attained. If the culture aim dominates, one would expect to find wide variation in the work and the courses of long duration with more or less study and recitation accompanying the shop and laboratory work. If, on the other hand, the strictly vocational aim dominates, it would be

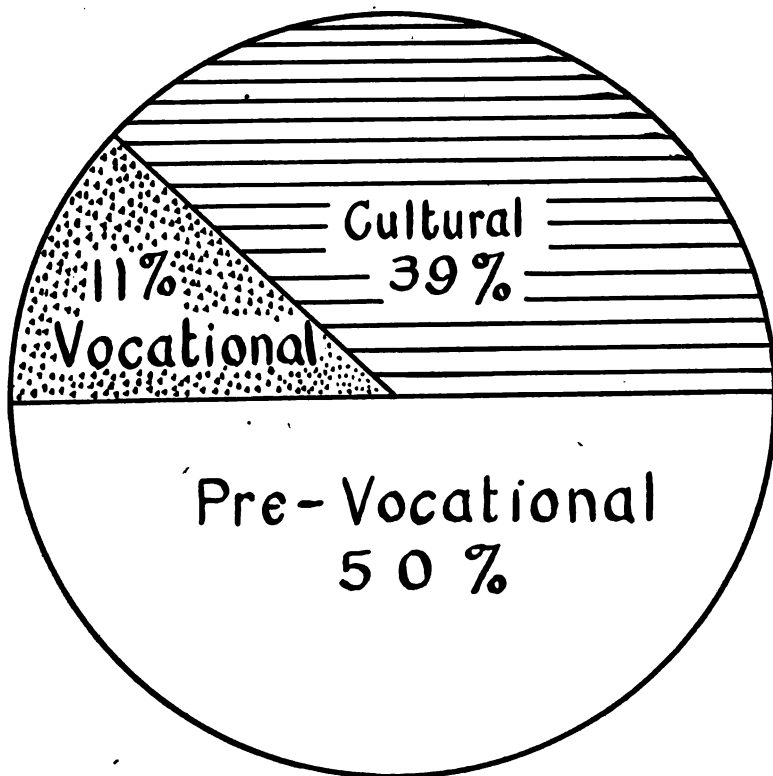


FIG. 1.—Distribution of cities as to dominant aim in manual arts and homemaking subjects, 112 cities (44 cities not reporting).

natural to find greater specialization and the greater portion of the work done in the shops and kitchens, all of it capable of application, more or less directly, in the trades and occupations. Work of a prevocational nature would possess in less degree some of the characteristics of both the cultural and vocational, but would be general in character and extensive in its scope. Some light is thrown on the nature of the work in terms of present practice by Tables 2 and 3.

TABLE 2.—*Nature of work and where offered, 142 cities (14 cities not reporting).*

Kind of work.	Grades.														Total.
	1	2	3	4	5	6	7	8	I	II	III	IV			
Paper folding, etc.....	111	102	61	38	16	10	8	8	.....	.....	.....	.....	354
Cardboard construction.....	33	47	62	59	39	18	13	15	2	2	1	1	292		
Raffia, basketry.....	23	27	38	51	44	31	12	12	4	1	2	3	248		
Weaving, textiles.....	32	38	40	25	13	7	4	5	3	4	4	4	179		
Knife, coping saw.....	2	2	4	8	30	28	14	12	1	.....	.....	.....	101
Clay, plasticine.....	38	32	19	12	7	8	4	6	4	3	3	2	138		
Leather, stamp, etc.....	.....	.....	.....	1	1	1	4	8	18	15	13	9	70
Art metal work.....	.....	.....	.....	.....	2	3	1	6	12	9	13	11	57
Jewelry.....	.....	.....	.....	.....	.....	.....	.....	1	8	5	6	9	29
Printing, bookbinding.....	.....	.....	2	3	6	9	13	14	11	10	9	7	84
Joinery, cabinetmaking.....	.....	.....	.....	.....	12	53	93	98	91	56	33	32	468
Wood turning, pattern making.....	.....	.....	.....	.....	.....	2	7	18	38	67	32	36	190
Foundry.....	.....	.....	.....	.....	.....	1	1	2	4	10	11	7	36
Machine shop.....	.....	.....	.....	.....	.....	.....	.....	2	4	7	22	24	59
Forge shop.....	.....	.....	.....	.....	.....	.....	.....	1	7	13	16	6	43
Concrete construction.....	.....	.....	.....	.....	.....	.....	6	4	4	1	2	6	23
Cooking.....	.....	.....	.....	1	6	24	62	91	88	68	43	39	422
Sewing.....	1	1	4	18	56	84	94	78	82	71	44	36	569		
Millinery.....	.....	.....	.....	.....	1	1	1	3	16	14	27	19	82

The figures in Table 2 represent cities offering the stated kinds of work in each of the grades and in the high school. The totals represent the sum of all the courses offered in any kind of work in all grades and in all cities.

In order to make the figures for each grade comparable with those of other grades, there must be a common base. The total number of cities reporting (142) was used as the base for computing the percentages given in Table 3. Each per cent was computed to the nearest whole number.

TABLE 3.—*Figures of Table 2 reduced to percentages, based on 142 cities.*

Kinds of work.	Grades.												
	1	2	3	4	5	6	7	8	I	II	III	IV	
Paper folding, etc.....	78	72	43	27	11	7	6	6	-----	-----	-----	-----	
Cardboard construction.....	23	33	44	42	27	13	9	11	1	1	1	1	
Raffia, basketry.....	16	19	27	36	31	22	8	8	3	1	1	2	
Weaving, textiles.....	23	27	28	18	9	5	3	4	2	3	3	3	
Knife, coping saw.....	1	1	3	6	21	20	10	8	1	-----	-----	-----	
Clay, plasticine.....	27	23	13	8	5	6	3	4	3	2	2	1	
Leather, stamp, etc.....	-----	-----	-----	1	1	1	3	6	13	11	9	6	
Art metal work.....	-----	-----	-----	-----	-----	2	1	4	8	6	9	8	
Jewelry.....	-----	-----	-----	-----	-----	-----	-----	1	6	4	4	6	
Printing, bookbinding.....	-----	-----	1	2	4	6	9	10	8	7	6	5	
Joinery, cabinetmaking.....	-----	-----	-----	-----	8	37	65	69	64	40	23	23	
Wood turning, pattern making.....	-----	-----	-----	-----	1	5	13	27	47	23	18	18	
Foundry.....	-----	-----	-----	-----	-----	1	1	1	3	7	8	5	
Machine shop.....	-----	-----	-----	-----	-----	-----	-----	1	3	5	15	16	
Forge shop.....	-----	-----	-----	-----	-----	-----	-----	1	5	9	11	4	
Concrete construction.....	-----	-----	-----	-----	-----	-----	4	3	3	1	1	4	
Cooking.....	-----	-----	-----	1	4	16	44	64	62	48	30	27	
Sewing.....	1	1	3	13	40	59	66	55	58	50	31	25	
Millinery.....	-----	-----	-----	-----	1	1	1	2	11	10	19	13	

The variety in the kinds of work offered is an important fact to be gained from the tables. The fact that there are five kinds of work found in every grade and in the high school should also be noted.

Table 3 shows how the emphasis varies from grade to grade for the various lines of work. These facts are represented more clearly in figure 2.

From Tables 2 and 3 and from figure 2 the following general facts may be gained:

1. Many different kinds of work are given in the different grades, but those receiving the most attention are sewing, joinery and cabinetmaking, cooking, paper folding, cutting, etc., cardboard construction, and raffia and basketry.

2. The following kinds of work are offered in every grade and throughout the high school: Cardboard construction, raffia and basketry, weaving and textiles, clay, plasticine, etc., and sewing. These subjects are not given equal emphasis in each of the grades, however.

3. Paper folding, cutting, etc., joinery and cabinetmaking, cooking and sewing are the only kinds of work given in over 50 per cent of the cities reporting.

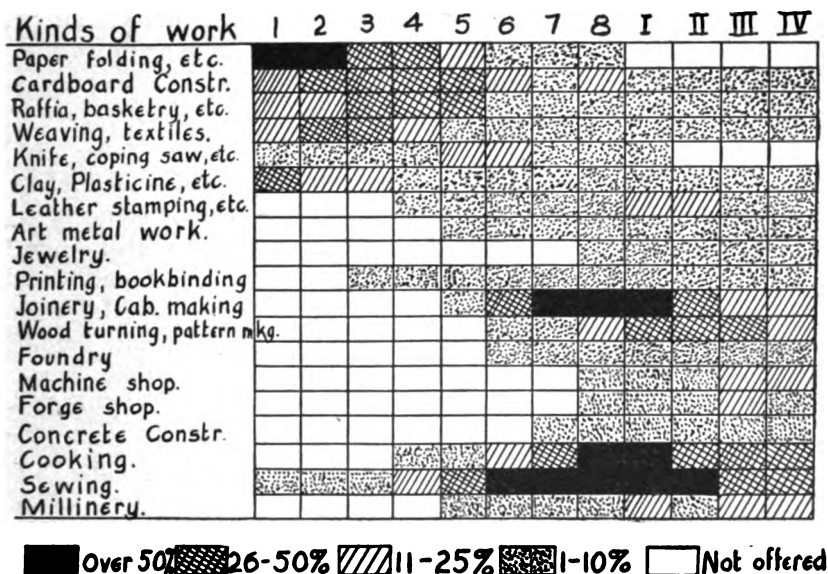


FIG. 2.—Percentage of cities offering work in different grades, 142 cities.

4. Grade eight is not only the grade in which the greatest emphasis is placed on manual arts and homemaking subjects, but it is the only grade in which every kind of work in these subjects is offered. The first high-school year ranks second in amount of emphasis and in variety of work.

5. The kinds of work receiving the least amount of attention are: Art metal, jewelry; printing and bookbinding, foundry, and concrete construction.

6. If the sanction of present practice be accepted, the following kinds of work are approved in—

Grades 1 to 5.—Paper, cardboard, raffia and reed, weaving textiles, clay and plasticine, and sewing.

Grades 6 to 8.—Knife and coping saw, joinery and cabinetmaking, cooking and sewing.

Grades I and II.—Leather stamping, etc., joinery and cabinetmaking, wood turning and pattern making, cooking and sewing.

Grades III and IV.—Machine shop, forge shop, cooking, sewing, and millinery.

In a general way these deductions should be of value to superintendents and supervisors who contemplate introducing the manual arts and homemaking subjects into their courses of study. To such persons the figures of Table 3 may serve as standards for the selection of material for courses of study and for the proper distribution of that material throughout the grades and the high school.

No attempt has been made to analyze the kinds of work reported. The details vary greatly in different localities. Even though designated by the same name in all the grades, there may be great variation in kind and amount of work done in the same subject in the different grades. Certainly the work with clay in the first grade differs much in character from work with the same material in the last year of the high school. A similar adaptation to the age and needs of pupils may be found in the other subjects. These details of variation can not be shown except in the general way indicated in the tables and figures.

TIME GIVEN TO THESE SUBJECTS.

It is generally conceded that when the work in the manual arts and homemaking courses is not correlated with other subjects it is better to have longer periods, even though fewer in number, than to have several short periods per week. The number of periods per week varies in different cities, and according to grades. In several cities the time is not distributed by periods in grades below the fifth. The work in manual arts and homemaking courses in these cities is taught incidentally and correlated with other subjects. The distribution of cities on the basis of the number of periods per week given to manual arts and homemaking subjects is shown in Table 4 for 56 cities.

TABLE 4.—*Number of periods per week, 56 cities (100 cities not reporting).*

Periods per week.	Grades.													
	1	2	3	4	5	6	7	8	I	II	III	IV	Total.	
Undistributed.....	6	6	5	4	1	1			5				23	
1.....	7	8	11	12	19	27	28	26	5	3	1	1	148	
2.....	3	3	4	7	8	11	13	14	9	7	5	5	89	
3.....	4	3	3	4	2		1	4	3	2			26	
4.....	1	1		1	2	3	3	3	2	3	4	4	27	
5.....	7	7	5	1	2	1	1	1	14	12	12	12	75	
6 or over.....				1	1	1	2	3	9	8	9	8	42	
Total.....	28	28	28	30	35	44	48	51	42	35	31	39	430	
Median.....	2	2	1	1	1	1	1	1	5	5	5	5	2	

The median number of periods per week indicates the tendency to have fewer periods in the grades and a larger number in the high school.

Before the number of periods per week can have much significance, it is necessary to know something of the length of the periods. Table 5 represents the distribution of cities according to the total number of minutes per week given to the manual arts and homemaking subjects in 125 cities.

TABLE 5.—*Distribution of cities with reference to number of minutes per week given to manual arts and home-making subjects, 125 cities (31 cities not reporting).*

Minutes per week.	Grades.													
	1	2	3	4	5	6	7	8	I	II	III	IV	Total.	
Less than 45.....	12	10	11	8	5	3	.....	.....	2	2	2	.....	49
46 to 60.....	9	10	8	10	14	6	8	.....	2	2	.....	1	67
61 to 75.....	20	19	24	25	31	35	18	12	1	1	1	1	188	
76 to 100.....	10	10	10	13	24	41	57	58	19	14	11	11	278	
101 to 125.....	7	9	9	10	9	11	17	17	4	6	2	2	103	
126 to 150.....	1	.....	1	.....	1	.....	2	4	1	1	1	1	13
151 to 180.....	3	3	1	1	1	2	5	6	2	1	3	3	31	
181 to 200.....	.....	.....	.....	.....	1	4	10	11	2	2	1	1	32
201 to 300.....	1	1	1	.....	.....	.....	1	2	14	13	12	10	55
301 to 400.....	.....	.....	.....	.....	.....	.....	2	2	9	9	8	7	37
401 to 450.....	.....	.....	.....	1	1	.....	.....	.....	11	10	8	9	40
451 to 500.....	.....	.....	.....	.....	1	1	1	2	23	22	19	19	88
501 to 600.....	.....	.....	.....	.....	.....	.....	.....	.....	4	3	2	2	11
Over 600.....	.....	.....	.....	.....	.....	.....	.....	.....	3	3	3	2	11
Total.....	63	62	65	68	88	103	116	114	95	87	73	69	1,008	
Lower quartile.....	53	54	57	60	69	69	79	83	114	122	161	161	72	
Median.....	69	70	70	71	74	81	93	95	334	345	350	386	94	
Upper quartile.....	91	96	91	94	93	97	116	124	464	468	469	468	190	

This table should be read: Of the cities giving less than 45 minutes per week to the manual arts and home-making subjects, there are 12 in the first grade, 10 in the second grade, etc. In the first grade the middle 50 per cent of the cities give from 53 to 91 minutes per week to these subjects, the median being 69 minutes; in grade 2, from 54 to 96 minutes, with the median at 70, etc.

Figure 3 shows graphically the median amount of time given to the manual arts and home-making subjects, as well as the limits between which the middle 50 per cent of the cities fall. The extremes above and below the middle 50 per cent are not shown in this figure, but may be found by referring to Table 5.

The heavy vertical lines represent the time given in the middle 50 per cent of the cities reporting. The short horizontal lines represent the median number of minutes in these cities. The gradual rise in the median line after the fourth grade and the very abrupt rise after the eighth grade are significant. It must not be forgotten that in 25 per cent of the cities the time is greater than that represented by the black lines, and in 25 per cent of the cities it is less than here represented.

It is evident from Table 5 and figure 3 that there is great diversity in the amount of time given to these subjects. The number of minutes per week ranges from less than 45 to over 600. The limits

of the middle 50 per cent, however, probably include those cities in which the number of minutes per week represents standard practice.

Given the number of periods per week and the total number of weekly minutes devoted to the manual arts and home-making subjects, it is still necessary to know what relation this time bears to the total school time. This can only be known by comparing the time given to these subjects with that given to all the school subjects.

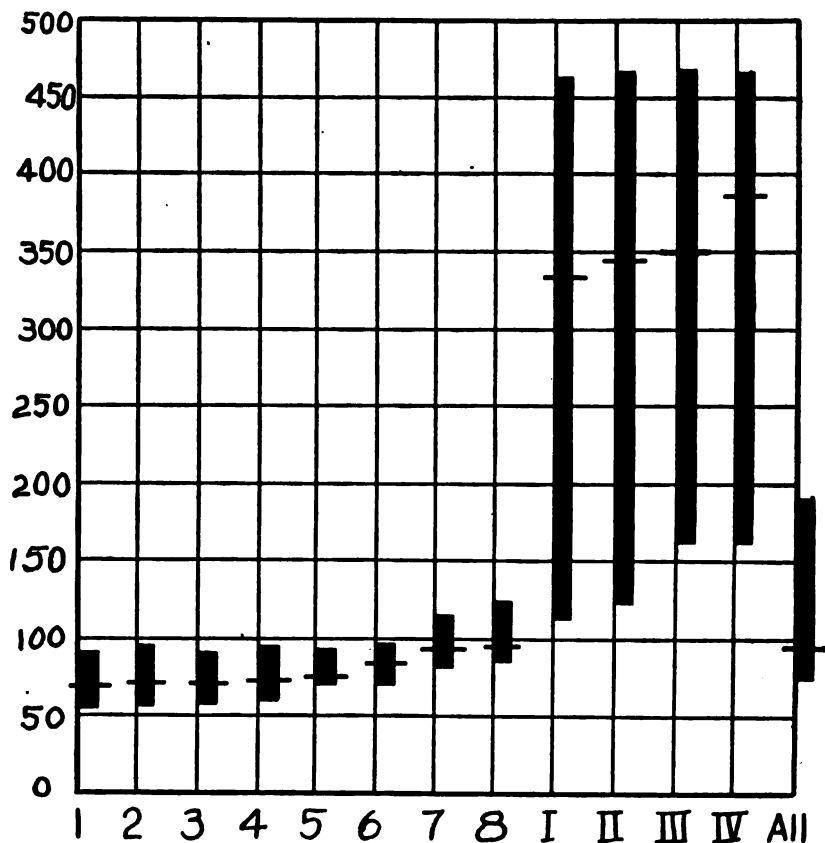


FIG. 3.—Median and middle 50 per cent of cities with reference to number of minutes per week given to manual arts and home-making subjects, 125 cities. Short horizontal bars represent medians; heavy vertical bars represent middle 50 per cent of cities.

The distribution of the 66 cities reporting with reference to the total school time is given in Table 6. The term "total school time" is here used to indicate the number of minutes per week that school is actually in session and does not include the time given to recesses and the noon intermission. It represents the number of minutes per week of actual schooling that a child may get provided he is in attendance at school for the entire week.

TABLE 6.—*Distribution of cities with reference to the total number of minutes per week given to all school subjects, exclusive of recesses and noon intermissions, 66 cities (90 cities not reporting).*

Minutes per week.	Grades.													Total.
	1	2	3	4	5	6	7	8	I	II	III	IV		
Less than 1,000.....	8	2	1	1	1	1	2	2	1	1	1	1	22	
1,001 to 1,100.....	1					1	1	1	1	1			6	
1,101 to 1,200.....			1	1	1	1	1	1	2	2			10	
1,201 to 1,250.....	6	2	1						2	2	2	2	17	
1,251 to 1,350.....	7	8	3	2	3	3	3	3	1	1			34	
1,351 to 1,400.....	10	10	6	3	2	2	3	3	3	3	2	2	49	
1,401 to 1,450.....	2	3	2	4	6	6	6	5	1	1	1		37	
1,451 to 1,500.....		2	4	3	1	1	1	1	3	2	2	2	22	
1,501 to 1,600.....	12	15	21	22	23	26	22	28	19	18	15	15	236	
1,601 to 1,800.....			5	10	12	13	14	11	8	8	8	8	97	
Over 1,800.....				1	1	3	3	4	8	8	9	9	46	
Total.....	46	42	44	47	50	57	56	59	49	47	40	39	567	
Lower quartile.....	1,217	1,325	1,392	1,458	1,450	1,500	1,442	1,475	1,458	1,472	1,513	1,520	1,410	
Median.....	1,355	1,395	1,520	1,543	1,550	1,554	1,550	1,550	1,558	1,556	1,580	1,547	1,539	
Upper quartile.....	1,508	1,528	1,575	1,592	1,600	1,631	1,630	1,609	1,675	1,725	1,775	1,775	1,597	

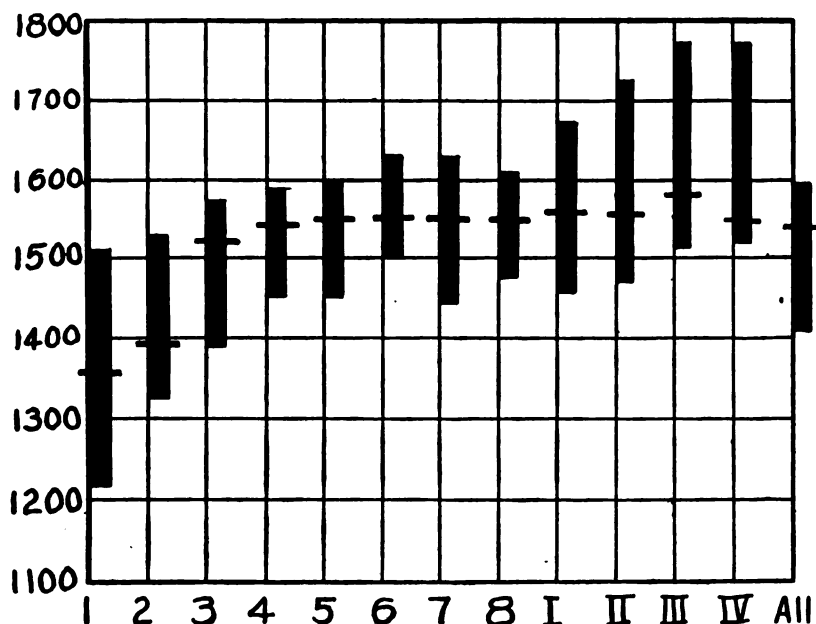


FIG. 4.—Median and middle 50 per cent of cities with reference to total number of minutes per week given to all subjects, 66 cities. Short horizontal bars represent medians; heavy vertical bars represent middle 50 per cent of cities.

The total school time varies greatly, the range being from less than 1,000 minutes per week to over 1,800 minutes per week. The limits for the middle 50 per cent of cities and the medians can best be represented graphically. Figure 4 shows these facts.

It will be noted from Table 6 and figure 4 that the total school time increases rapidly up to the third grade and that thereafter the

increase is very slight. The greatest amount of time is given to the subjects in the third year of the high school.

The figures of Table 6 were used as the base in computing the percentages given in Table 7, which shows the relation the manual arts and homemaking time bears to the total school time. This table does not show the total distribution, but only the median percentages with the upper and lower limits of the middle 50 per cent of the cities reporting.

TABLE 7.—Percentage that the time given to manual arts and homemaking subjects is of the total school time.¹

	Grades.													Total.
	1	2	3	4	5	6	7	8	I	II	III	IV		
Lower quartile.....	4.4	4.1	4.1	4.1	4.7	4.6	5.5	5.6	7.8	8.0	10.6	10.6	5.1	
Median.....	5.1	5.0	4.7	4.6	4.8	5.2	6.0	6.1	21.4	22.2	23.1	24.9	6.1	
Upper quartile.....	6.0	6.3	5.8	5.9	5.8	6.0	7.1	7.7	27.7	27.0	27.0	26.3	12.1	

¹ In terms of medians and quartiles.

The figures of the above table are represented graphically in figure 5.

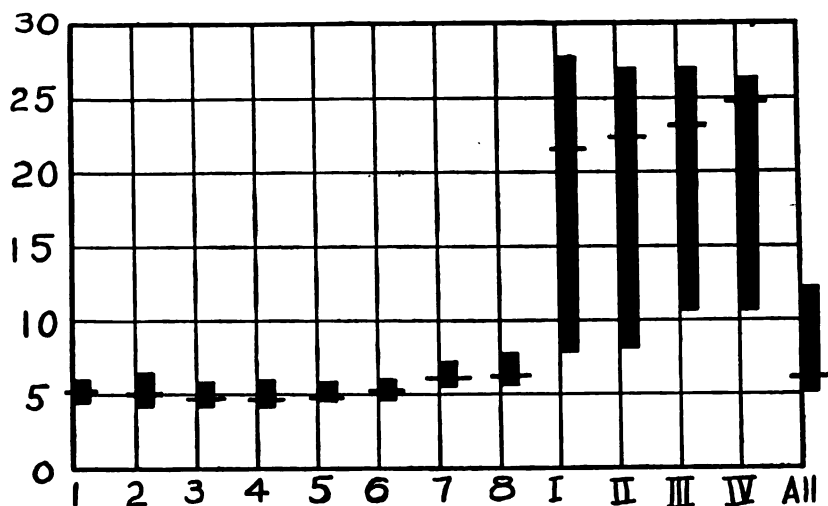


FIG. 5.—Median and middle 50 per cent of percentages of total school time given to manual arts, etc. Short horizontal bars represent medians, heavy vertical bars represent middle 50 per cent of cities.

Short horizontal bars represent medians, heavy vertical bars represent middle 50 per cent of cities.

From Table 7 and figure 5 it is evident that there is wide variation in the proportionate amount of time given to these subjects, especially in the high school. Only about 5 per cent of the total school time is thus used in the first six grades. This increases to 6 per

cent in the seventh and eighth grades and to nearly one-fourth of all school time by the time the senior year of high school is reached.

The relative amount of time given to a subject is one indication of the educational value that is attributed to that subject. It will be seen that the proportion of time is about 1 to 20 in the grades and 1 to 4 in the high school. Is the work in the high school five times as valuable as that in the grades? In terms of present practice, as measured by the amount of time given to it, it is.

Relative to the time given to manual arts and homemaking subjects the data here presented justify the following conclusions:

1. The number of periods per week devoted to these subjects is one in the grades and five in the high school.
2. The time given to work of this kind amounts to about one and one-quarter hours per week in grades 1 to 5; one and one-half hours in grades 6 to 8; and nearly six hours per week in the high school.
3. The total school time varies greatly, but the median total time is 1,350 minutes in grade 1, 1,400 in grade 2, and about 1,550 minutes per week in all the other grades.
4. The time given to the manual arts and homemaking subjects is about 5 per cent of the total school time in the first six grades; about 6 per cent in the seventh and eighth grades, and nearly 25 per cent in the high school.

METHODS EMPLOYED.

The methods of presenting the work in manual arts and homemaking subjects and the nature of the work presented may be classified in general into four more or less distinct classes or groups—systematic, graded exercises; individual projects selected by the pupils; cooperative projects selected by the class; and projects expressive of the regular work in history, arithmetic, reading, and other subjects. It will be seen that several of these may be employed in one school in different grades; hence in actual practice there is a certain amount of overlapping of these methods. There is also a tendency to make use of the method adapted to the needs of children at various stages in their development, so that some of these methods are emphasized in a few grades and found scarcely at all in others.

Since the methods were classified in this way in the questionnaire, a brief explanation of each method is here given:

The *systematic graded exercise* plan is based largely on the Swedish sloyd, or some other system, in which the work is given with special reference to the sequence of the projects, tools, technical processes, construction, and finish. The chief aims are to develop skill and to make useful projects. Little attention is given to the interests of the pupils in those exercises. Exercise 6, or its equivalent, must be completed before exercise 7 is begun. Under this plan interest is maintained by the development of skill, by general interest in the use of tools and shaping materials, and by the desire to reach exer-

cise 12, which may be the particular objective point in the course at that time.

Individual projects selected by the pupils have the advantage of making a direct appeal to the immediate interests of the pupils. Pupils, however, are apt to select projects that are beyond their capabilities, and because of this fact they may be disappointed in the finished project. This method presents many difficulties to the instructor, because in a class of 20 pupils there may be as many as 20 different projects under construction at one time. This plan seems to work successfully with mature pupils in the upper grades. When used alone, this plan sacrifices skill and well-finished products in order to secure temporary interest in a given project.

Cooperative projects selected by the pupils are designed to make an appeal to the group or cooperative instincts of the pupils. Frequently such projects are institutional projects, and if they are large jobs, interest is usually good. Boys will build boats, buildings, concrete walks, but interest lags when they are required to frame pictures, repair furniture, or construct some article of school equipment.

The making of projects expressive of some phase of subject matter in history, arithmetic, geography, or other subjects involves rather close correlation of manual arts and homemaking subjects with the regular school work in other subjects. This method makes the handwork incidental to the bookwork, and is merely a means of concrete expression of some of the ideas gained in the study of other phases of subject matter. When proper correlation exists the handwork may be made a strong incentive for better work in the other subjects.

Table 8 shows the prevalence of each method when used alone, also when used in combination with some other method.

TABLE 8.—*Methods used in presenting manual arts and homemaking subjects, 131 cities (25 cities not reporting).*

	Cities.
A. Systematic graded exercises, and individual projects only.....	30
B. Systematic exercises, individual projects, and cooperative projects only.....	29
C. All four methods.....	28
D. Systematic graded exercises only.....	22
E. Systematic exercises, individual projects, and correlated projects.....	10
F. Systematic exercises and projects expressive of other work only.....	6
G. Individual projects, cooperative projects, and correlated projects.....	3
H. Individual projects only.....	2
I. Systematic exercises, cooperative projects, and correlated projects.....	1
Cities reporting.....	131

The single method in greatest favor among the cities reporting is that of the systematic graded exercises. This method combined with that of individual projects find greatest favor of all. These

two methods combined with the cooperative project plan ranks second in importance, while a combination of all four methods ranks third. The figures of Table 8 above, when reduced to percentages, are represented graphically in figure 6.

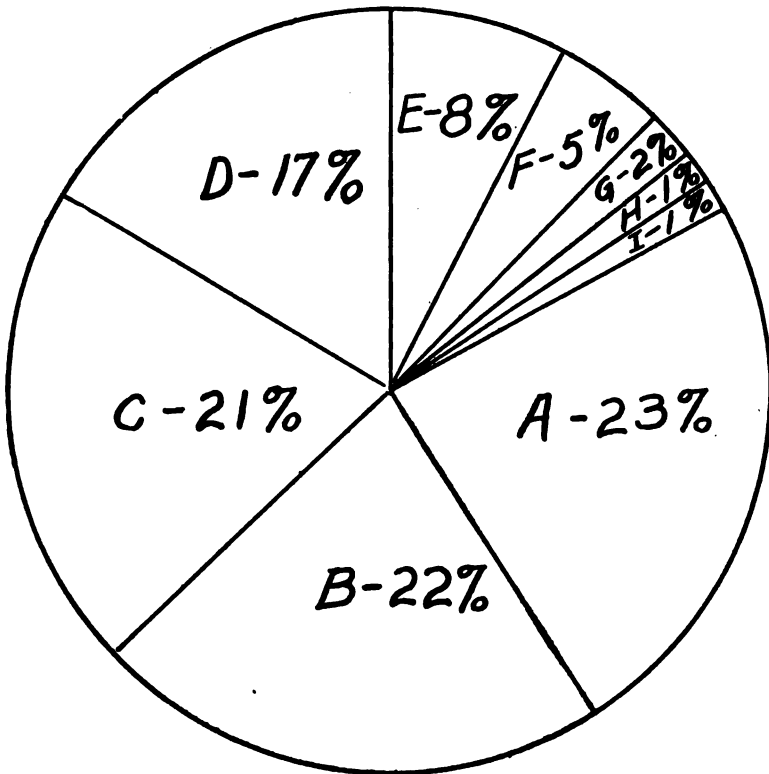


FIG. 6.—Methods used in presenting manual arts and homemaking subjects.

- A. Systematic graded exercises, and individual projects only.
- B. Systematic exercises, individual projects, and cooperative projects.
- C. All four methods.
- D. Systematic graded exercises only.
- E. Systematic exercises, individual projects, and correlated projects.
- F. Systematic exercises and projects expressive of other work only.
- G. Individual projects, cooperative projects, and correlated projects.
- H. Individual projects only.
- I. Systematic exercises, cooperative projects, and correlated projects.

TABLE 9.—Methods used in 131 cities, showing grades in which each is emphasized.

	Grade.											
	1	2	3	4	5	6	7	8	I	II	III	IV
Systematic, graded exercises.....	72	70	70	76	87	99	105	104	80	71	64	63
Individual projects.....	25	26	28	29	39	48	64	77	69	66	80	53
Cooperative projects.....	22	21	22	22	25	26	35	38	39	39	40	39
Correlated projects.....	37	37	37	38	27	27	26	26	15	17	16	16

The figures in Table 9 represent the number of cities using the method specified in each of the grades. The data of this table reduced to percentages are represented graphically in figure 7.

Regarding the methods of presenting the manual arts and homemaking subjects, the following general facts may be stated:

1. When any method is used alone, that of systematic, graded exercises leads all the rest, but combinations of two or more methods are more frequent than any one method used alone.

2. While each method is in use to some extent in every grade, that of systematic, graded exercises is most frequent in grades 6, 7, and 8; that of individual projects in grades 8, I, and II; that of cooperative projects in grades 7, 8, and through the high school; and that of projects expressive of work in history, geography, arithmetic, etc., in grades 1 to 4.

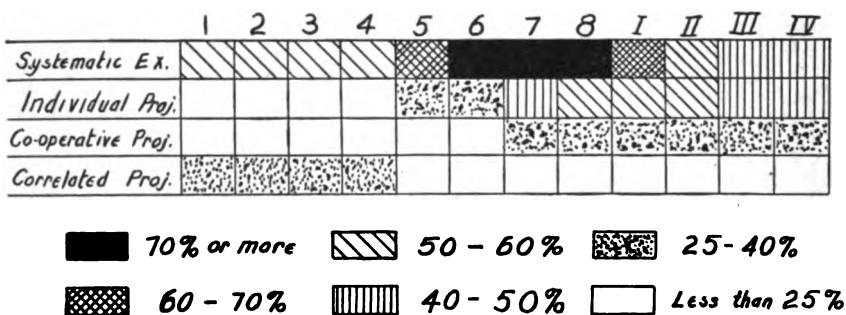


FIG. 7.—Methods used in different grades.

DISPOSAL OF PRODUCTS.

The method of disposing of the finished products of the manual arts and homemaking work depends somewhat upon the nature of the products. Obviously some of the products of the shop and kitchen have little or no market value, hence disposal by sale is not possible. Sometimes the materials are furnished by the school and used only as a means of training the pupils in the handling of tools and implements; in this case the products are retained by the school. In most cases, however, the pupils keep the products of their labor. Cooperative projects are likely to be of such a nature that the finished products are kept by the school. There are also combinations of the above methods and adaptations of each to the grade in which the work is done, to the nature of the product, and to the local demands for the output of the shops and kitchens. The methods of disposing of the products in the various cities are classified in Table 12.

TABLE 12.—*Methods of disposing of products, 130 cities (26 cities not reporting).*

	Cities.
Kept by pupils.....	52
Part kept by pupils, part by school.....	46
Part kept by pupils, part by school, part sold.....	19
Part kept by pupils, part sold.....	11
Given for charity, and exchanged with other schools.....	2
Total.....	130

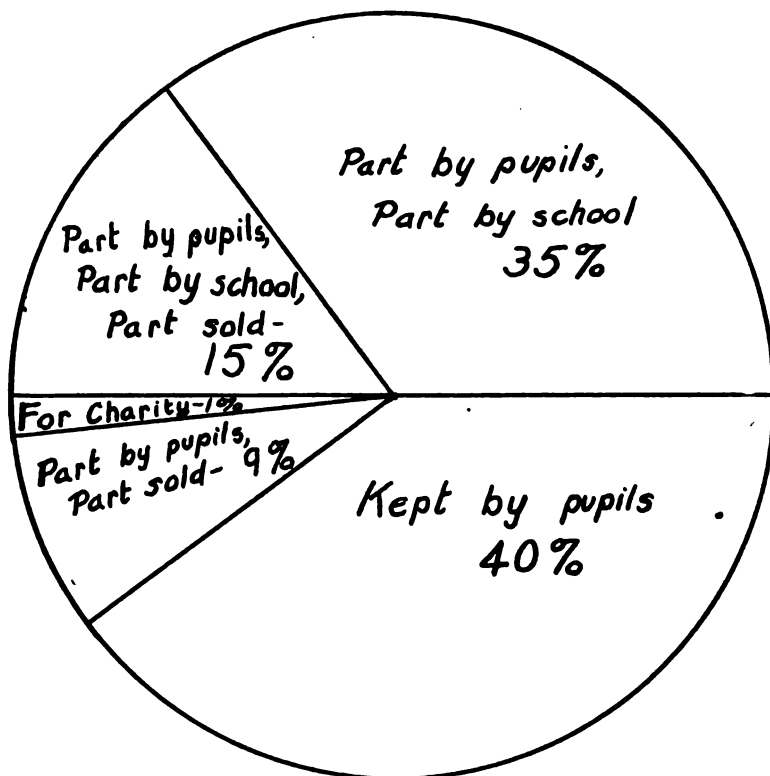


FIG. 8.—Methods of disposal of finished products.

The methods of disposal used in the different cities, grade by grade, are shown in Table 13.

TABLE 13.—*Number of cities using each method, grade by grade.*

Methods of disposal.	Grades.											
	1	2	3	4	5	6	7	8	I	II	III	IV
Kept by pupils.....	99	99	99	102	107	113	123	125	103	100	94	93
Kept by school.....	29	29	29	30	31	38	44	46	54	53	47	46
Sold by school or pupils.....	10	10	10	10	11	13	17	19	14	13	11	10

It will be noted that the method most commonly used is that of permitting the pupil to retain his project when completed. The combination nearly as popular is that of allowing part of the product to be kept by the pupil and the remainder by the school. Retention

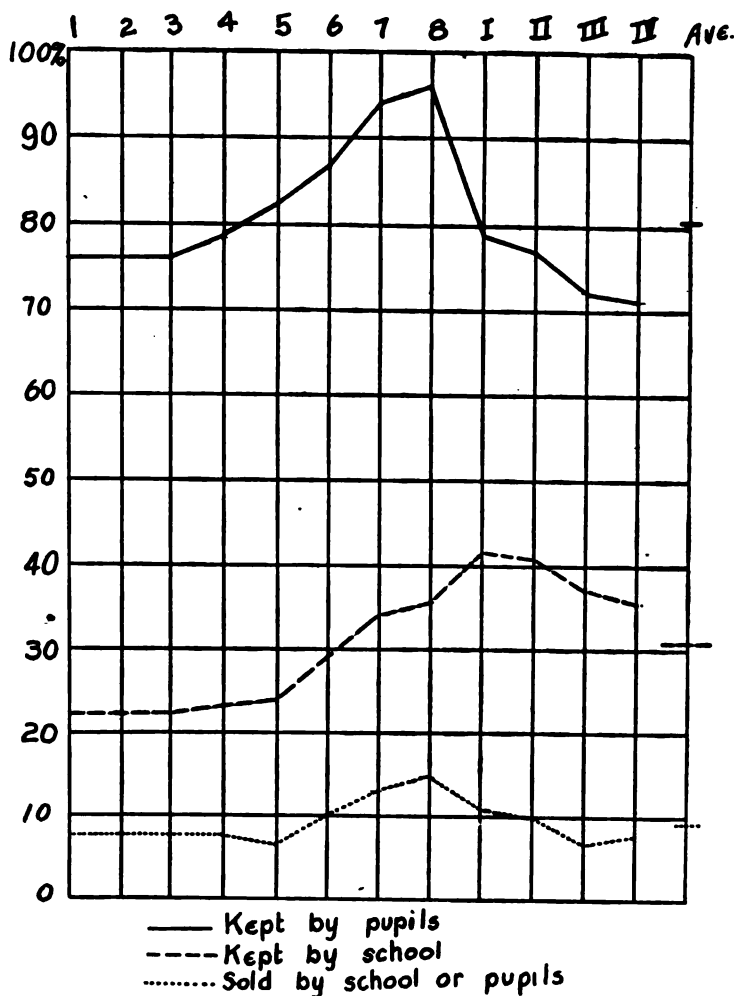


FIG. 9.—Methods of disposal of finished products by grades.

of products by pupils is found in the largest number of cities in the seventh and eighth grades. Retention by the school is most frequent in the first and second years of the high school, while disposal by sale is most frequent in grades seven and eight. Figure 9 shows in percentages the frequency of the use of each of these methods.

GENERAL SUMMARY.

In terms of the central tendencies represented by the data presented in the foregoing sections it is possible to state certain standards of practice in the teaching of manual arts and home-making subjects.

The dominant aim is prevocational in character. This means that the courses given are intended to give knowledge of and a low degree of facility in the use of tools, materials, and processes, some attention being given those phases of the work which have probability of usefulness in the arts and trades. It also implies that the work will be varied, covering as wide a range of tools, materials, and processes as possible in the time available.

There is great variety in the kinds of work offered, but the general tendency seems to lie in the direction of the following—work in paper in the primary grades, joinery and cabinet making for boys in the grammar grades, and sewing and cooking for girls in the grammar grades. These are also the lines of work receiving the greatest emphasis.

The time given to these subjects amounts to about 75 minutes per week in the lower grades, 90 minutes per week in the seventh and eighth grades, and over 300 minutes per week in the high school. This time is undistributed in the primary grades, is given in a single weekly period in the grammar grades, and in five weekly periods in the high school. The time given to these subjects is over 5 per cent of the total school time in the elementary school and over 25 per cent of the total time in the high school.

Although various methods of presenting the work are in use, that of systematic graded exercises is the one most frequently used. The type of method used varies somewhat with the grade in which the work is given, as well as with the aim dominating the teaching of these subjects.

The methods of disposing of the finished products are varied according to the nature of the product and according to the grade in which produced, but the one in most frequent use is that of permitting the pupil to keep the product of his handiwork.

The central tendencies obtained from a treatment of the data in this bulletin may be accepted as representative of the present status of the manual arts and home-making subjects in so far as they apply to the phases of the subjects studied and to the extent of the 156 cities reporting. The variations from these central tendencies, however, may be quite as important as the central tendencies themselves in determining future policies and reorganizations.

Cities and States represented in this study.

Alabama:	Iowa—Continued.	New Jersey:
Selma.	Sioux City.	Bayonne.
California:	Waterloo.	East Orange.
Alameda.	Kansas:	Elizabeth.
Bakersfield.	Emporia.	Jersey City.
Berkeley.	Kansas City.	Kearney.
Los Angeles.	Leavenworth.	North Bergen.
Pasadena.	Newton.	Rahway.
San Jose.	Parsons.	Rutherford.
Connecticut:	Topeka.	Trenton.
Ansonia.	Kentucky:	Plainfield.
Danbury.	Bowling Green.	New Mexico:
Meriden.	Frankfort.	Albuquerque.
Waterbury.	Lexington.	New York:
Colorado:	Winchester.	Cohoes.
Grand Junction.	Louisiana:	Dunkirk.
Greeley.	Baton Rouge.	Fulton.
Trinidad.	New Orleans.	Gloversville.
Georgia:	Maine:	Harwell.
Athens.	Sanford.	Hudson Falls.
Idaho:	Massachusetts:	Ithaca.
Idaho Falls.	Chelsea.	Jamestown.
Illinois:	Everett.	Kingston.
Beardstown.	Milford.	Newburgh.
Chicago Heights.	Springfield.	Oswego.
Elgin.	Waltham.	Plattsburg.
Freeport.	Michigan:	Rome.
Hinckley.	Adrian.	Syracuse.
Hoopestown.	Benton Harbor.	Utica.
Joliet.	Calumet.	Yonkers.
Metropolis.	Detroit.	North Carolina:
Ottawa.	Muskegon.	Charlotte.
Peoria.	Minnesota:	North Dakota:
Quincy.	Minneapolis.	Bismarck.
East St. Louis.	Mississippi:	Fargo.
Indiana:	Vicksburg.	Ohio:
Crawfordsville.	Missouri:	Akron.
Indianapolis.	Hannibal.	Canton.
Marion.	St. Louis.	Cincinnati.
Michigan City.	Webb City.	Elyria.
Muncie.	Montana:	Hamilton.
Oakland City.	Great Falls.	Lancaster.
Peru.	Missoula.	Norwood.
South Bend.	Nebraska:	Youngstown.
Vincennes.	Beatrice.	Oklahoma:
Iowa:	Lincoln.	Bartlesville.
Burlington.	Omaha.	Chickasha.
Clinton.	New Hampshire:	Pennsylvania:
Council Bluffs.	Dover.	Harrisburg.
Davenport.	Keene.	Indiana.
Keokuk.	Manchester.	Monessen.
Ottumwa.		

Pennsylvania—Contd.

Mount Carmel.

Nanticoke.

Phoenixville.

Reading.

Scranton.

Sharon.

Shenandoah.

Tamaqua.

West Chester.

Rhode Island:

Central Falls.

Providence.

South Carolina:

Columbia.

South Dakota.

Sioux Falls.

Watertown.

Texas:

Beaumont.

Brownsville.

El Paso.

Galveston.

Houston.

Marshall.

Sherman.

Utah:

Ogden.

Vermont:

Burlington.

Virginia:

Richmond.

West Virginia:

Huntington.

Wisconsin:

Appleton.

Racine.

Superior.

Wausaw.

Sheboygan.

Wyoming:

Cheyenne.

Sheridan.



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 33

REGISTRATION AND STUDENT RECORDS
FOR SMALLER COLLEGES

COMPILED BY

BENJ. F. ANDREWS

SPECIALIST IN LAND GRANT COLLEGE STATISTICS
BUREAU OF EDUCATION



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

**ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS PER COPY**

CONTENTS.

	Page.
Letter of transmittal.....	7
Keeping student records.....	7
I. Forms used before entrance.....	8
1. The application blank.....	8
2. Preparatory school certificate.....	17
II. At entrance.....	27
Registration or matriculation.....	27
III. During the college course.....	36
Permanent record form.....	36
IV. Alumni records.....	52
Résumé.....	52

APPENDICES.

A. Outline of certain systems.....	53
B. Miscellaneous forms.....	56

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., October 25, 1916.

SIR: The recording offices of many small colleges in various parts of the country have failed to develop appropriate and convenient systems for registering important data concerning the academic work of students. Members of the Bureau of Education who visit such institutions are frequently asked to suggest practical methods for recording the desired information. With a view to meeting the insistent needs of registrars of colleges of this type, I have requested Mr. Benjamin F. Andrews, specialist in land-grant college statistics, to gather the registration forms which have been successfully used in a number of collegiate institutions and to prepare a brief statement on the fundamental operations of the registrar's office. The accompanying document presents this material. I recommend that it be published as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

THE SECRETARY OF THE INTERIOR.

REGISTRATION AND STUDENT RECORDS.

The registrar's office is the pulse of a college. The machinery for recording every relation of the student to the university, and the completeness and availability for reference of this record, reveal the vitality and efficiency of the institution. Large universities have recognized this fact for some time. Most of them have developed systems of registration entirely adequate to the needs of administrative officers, systems which may be interpreted also by an outside inquirer seeking information as to the academic policies or standards.

Some small colleges have developed similar records, but many of them still tolerate very rudimentary systems of registration, or perhaps no system at all, depending wholly for knowledge of the standing of former students upon the memory of some overworked member of the faculty, reenforced perhaps by a few cryptic marks preserved in old ledgers or on loose and scattered sheets of paper. A few institutions where such slipshod methods prevail realize the importance of keeping accurate records, but do not know of what these should consist or what forms have been found most convenient for entering and for subsequent reference. Others have not yet perceived the value of the operations of the registrar.

Two paramount reasons may be cited for the keeping of adequate and systematic records: First, the college owes it to students who may transfer to another institution or who may later refer to their alma mater for statements of their character and academic achievements. Second, no institution may be sure of itself, of the honesty and consistency with which it maintains its standards, of the trend of its academic policies, unless all data bearing on these matters are immediately and fully recorded. Faculties are generally humane, they tend to make exceptions. The multitude of exceptions sometimes nullifies the rule. If an institution is to know whether its rules or the exceptions are really the rule, the facts must be put down in the records where they can not be forgotten.

In view of the desirability of encouraging certain of the smaller institutions to keep proper records, this brief summary of the fundamental processes of the registrar's office is offered. It is hoped that it may prove helpful. The material on which it is based consisted

of numerous printed forms submitted in response to inquiries from the Bureau of Education.

The forms submitted show that college registration records vary almost infinitely. Apparently no two institutions use identical methods. The larger universities have evolved forms and systems which answer their own purposes perfectly, but are of little help to the colleges of smaller organization. Columbia University, for example, with its many departments and very large enrollment, has an intricate system involving a multiplicity of forms. Yet there are certain major operations which must be carried on everywhere, and forms have been developed for recording them which approach a common type. These operations are described below and samples of some of the most convenient forms are reproduced.

The keeping of student records naturally divides itself into several main stages:¹

- I. Before entering college.
- II. At entrance.
- III. During the college course.
- IV. Alumni records.

I. FORMS USED BEFORE ENTRANCE.

1. THE APPLICATION BLANK.

The object of this blank is to file with the institution the name of the prospective student and such other advance information as may seem desirable. The blank may be simply an address card or a form designed for a somewhat detailed precollegiate and personal history. The detailed form has the advantage of showing at once whether the student has covered the preparatory ground and may be considered for certification or examination for admission. A number of the institutions accompany the application blank with the rules for admission printed either on the back (Northwestern, Ie) or on a separate slip fastened to it (Knox, If). This blank is sometimes used to reserve dormitory or classroom space, and for this purpose it may be filed months before actual enrollment. Such a blank is used by Randolph-Macon Woman's College (Ia). Other examples of the various forms in use are those of Lehigh University (Ib), University of Cincinnati (Ic), Massachusetts Agricultural College (Id), Northwestern University (Ie), and Knox College (If).

From the forms submitted the following questions have been selected to form a complete application blank. Each of the ques-

¹ In connection with each of these stages are many minor operations, for the recording of which numerous forms have been developed. These are, for instance, student identification cards, cards for admission to classes, athletic tickets, report cards of all sorts, notifications of failures, excuse for absence cards, transfers to other departments, etc. Since in the smaller institutions their place can generally be taken with much economy by a typewritten letter, no attempt will be made to show their use. For samples see Appendix B.

tions given below appears in several, if not all, of the forms used by different institutions:

DATE OF APPLICATION.

- A. The Applicant.
 - 1. Name, home address.
 - 2. Place and date of birth, age.
 - 3. Religious or church preference or connection.
- B. Parents or Guardians.
 - 1. Name, home address.
 - 2. Occupation.
- C. Preparatory Training.
 - 1. Schools—name, location, principal of each.
 - 2. Length of time at each. Graduate or not.
 - 3. Other college.
 - 4. Teaching experience (for normal students only).
 - 5. Preparatory studies completed—college units for each. Which may be certified? Which require examination? Conditions in entrance studies.
- D. College Course.
 - 1. What course do you intend to enter?
 - 2. When or in what class?
 - 3. Scholarship or other aid.

Although this blank is undoubtedly useful in giving the institution advance information, and thus enabling it to prepare for examinations and instruction, yet its use may be entirely dispensed with, especially in the small college, where correspondence with the prospective students has frequently been kept up for months before entering. Much of the same information is also given on the usual preparatory school certificate. The filing of such certificate may render the application blank unnecessary.

[FORM Ia.]

Form A.

RANDOLPH-MACON WOMAN'S COLLEGE.

No.

(NOTE.—Rooms are assigned new applicants in the numbered order of their applications. To secure a reservation, this form should be properly filled and returned by parent or guardian with inclosure of \$10. The money is credited on account when the student enters, but will be returned if the application is canceled prior to July 1, or if preparation is found to be insufficient.)

APPLICATION FOR ADMISSION.

To Randolph-Macon Woman's College: , 191....

I herewith apply for admission for my daughter (ward) to college for the session of 191 -191 , and request that room be reserved in accordance with the conditions noted above.

Name of parent (or guardian).....
(With professional title.)

Address.....

Name of student.....
(Full name.)

Address.....

Date of birth.....

Church affiliation..... Member?.....

Prepared at { Name of institution.....
Location.....
Principal.....

Number of years in high school or seminary.....

Graduate?.....

Upon return of this, a blank form of certificate will be sent.

[FORM B.]

LEHIGH UNIVERSITY.

I hereby apply for admission to Lehigh University.

Name in full.....
 Place of birth.....
 Date of birth.....
 Preparatory school or college.....
 (Name in order all high and preparatory schools attended.)
 Course you purpose taking.....
 Date you contemplate entering.....
 Religious denomination.....
 Father's, mother's, or guardian's name.....
 " " " occupation.....
 " " " address.....

[FORM C.]

UNIVERSITY OF CINCINNATI.

REGISTRATION BLANK.

Date.....
 Name in full.....
 (Including middle name, without initials or contractions.)
 Place of birth.....
 Date of birth.....
 Cincinnati address.....
 Home address.....
 (As you wish it printed in catalogue.)
 Is last address within Cincinnati's corporation line?
 What is the length of your consecutive residence in Cincinnati immediately prior to
 this date?
 Where did you reside before coming to Cincinnati?
 Name in full and present post-office address of father, or the name and address of
 guardian, if father is not living.....

 Occupation of father.....
 Denominational preference.....
 Are both parents living?
 School last attended and date.....
 Have you ever attended this university?
 Date of last attendance.....
 In what college are you registering?

[FORM 1d.]

[Obverse.]

MASSACHUSETTS AGRICULTURAL COLLEGE.

APPLICATION FOR ADMISSION.

Dated.....

The candidate is requested to fill out this blank and after it has been approved by the principal to return it to The Registrar, Massachusetts Agricultural College, on or before June 1, if candidate for June examinations, before August 1, if candidate for September examinations. (For regulations concerning entrance, see other side.)

Name in full.....

Permanent residence. { Town.....
Street and No., if any
County.....
State.....

Name of parent or guardian.....

To take examinations at.....in { June,
Sept.

To enter Massachusetts Agricultural College in September, 19....

I offer for admission the subjects indicated on the list appended.

Subjects to be offered on certificate must be marked "C." Subjects in which examination is desired in June, 19...., should be marked "X June." If September examination is desired, mark "X Sept."

Name of preparatory school.....

Location.....

Recommended for examination in subjects marked "X."

Will be certified in subjects marked "C."

Moral character of applicant.....

Approved..... Principal.

..... School.

ENTRANCE.

SUBJECTS.	CR.
Agriculture ¹	*
Botany ²	*
Chemistry ²	1
Algebra.....	1½
Plane Geometry.....	1
Solid geometry.....	½
Trigonometry.....	½
Physics ²	1
Geology.....	½
Physiology.....	½
Physiography.....	½
Zoology ²	½
History ² (one unit required).....	.....
Ancient ⁴	1
English ⁴	1
General ⁴	1
Medieval and modern ⁴	1
U. S. and civics ⁴	1
English.....	3
English, 4th credit ¹	1
El. French or El. Germ.....	2
El. French ⁴ or El. Germ. ⁴	2
French Int.....	1
French Adv.....	1
German Int.....	1
German Adv.....	1
Greek A ¹	2
Greek B ¹	1
Latin A.....	2
Latin B.....	1
Com. geography ⁴	½
Drawing ⁴	½
Manual training ⁴	*

¹ Examination in September only.

² Notebook required as part of preparation will be credited as part of the examination.

³ One must be offered for the required point, one, two, or three others may be offered for elective points.

⁴ One credit for each offered.

⁵ May be offered as elective if not offered to satisfy required points.

⁶ On certificate only, no examination given.

⁷ ½ or 1 credit allowed, depending on time spent in preparation and ground covered. Insert credit earned.

[Reverse.]

REGULATIONS CONCERNING ENTRANCE.

A. MODES OF ADMISSION.

Students are admitted to the freshman class either upon certificate or upon examination. No *diploma* from a secondary school will be accepted.

Certificates.—Certificates will be received from those schools in New England which have been approved by the New England College Entrance Certificate Board. Principals of schools in New England who desire the certificate privilege should address the secretary of the board, Prof. Frank W. Nicolson, Wesleyan University, Middletown, Conn. Certificates from schools outside of New England will be received if those schools are on the approved list of the College Entrance Certificate Board of the section in which the school in question is located.

Certificates, in order to be accepted, must present not less than 7 of the necessary 14 credits. The only exception to this rule is indicated under note 6, certification in these subjects being allowed, although no other subject be offered on certificate. All credits lacking on certificate must be made up at the time of the entrance examinations. (Two points condition will be allowed on entrance work.)¹

Blank forms for certification—sent to principals or school superintendents only—may be obtained on application to the registrar of the college.

The credentials of the board of regents of the State of New York are accepted as satisfying the entrance requirements of this college when offered subject for subject.

Examinations.—The examination in each subject may be oral or written, or both. The standard required for passing an examination for admission is 65 per cent. Conditions to the amount of two units will be allowed.¹

B. REQUIREMENTS FOR ADMISSION.

The requirements for admission are based on the completion of a four-years' course in a high school, or its equivalent, and are stated in terms of units. The term unit means the equivalent of four or five recitations a week for a school year. **Neither more nor less credit will be given in any subject than is indicated in the table appended.** Fourteen units must be offered for admission. In the list appended, *every subject in black-faced type is absolutely required and no substitution is allowed.* The subjects so typed total eight and one-half units. In addition to these points five and one-half more units must be chosen from the subjects printed in light-faced type.

Presentation of notebooks.—The keeping of a notebook is required as part of the preparation in those subjects indicated (see note 2).

Candidates presenting themselves for examination in such subjects must present at the same time the required notebook, properly certified by the principal. Candidates presenting such subjects on certificate should not present notebooks; but their certificates must state that notebooks have been satisfactorily completed.

Provision is made for the removal of entrance conditions as follows: (1) First entrance condition examination, in the week following the Thanksgiving recess. (2) Second entrance condition examination, in the sixteenth week of the first semester.

¹ *Entrance with condition in English.*—Under the rule permitting entrance conditions of not more than two units of the preparatory subjects, applicants may be admitted upon examination, with a condition in English, provided that they show, upon examination, satisfactory preparation in work, entitling them to a ranking of 60 or higher.

Students, so admitted, must, to remove the condition, pass an examination covering the regular three-units requirement.

(Page 2 of folder.)

REPORT OF EXAMINERS.

M

entered from the school, is entitled to
entrance credits as follows:

	Units of credit.	Examin- er's signature.		Units of credit.	Examin- er's signature.
GROUP A.			GROUP C—continued.		
1. English—(a), (b), (c)			22. Physiography		
2. Mathematics—Algebra (a), (b)			23. Physics		
(c) Plane geometry			24. Botany		
			25. Zoology		
GROUP B.			26. Chemistry		
6. Greek—(a)			27. Ancient history		
7. Greek—(b)			28. Mediaeval and modern European history		
8. Greek—(c)			29. English history		
9. Latin—(a)			30. American history		
10. Latin—(b)			31. Civil government		
11. Latin—(c)			32. Political economy		
12. Latin—(d)			33. Commercial geography		
13. French—(a)			34. Commercial law		
14. French—(b)			35. Physiology		
15. French—(c)					
16. German—(a)			OTHER SUBJECTS.		
17. German—(b)					
18. German—(c)					
19. Spanish—(a)					
20. Spanish—(b)					
GROUP C.					
21. Mathematics—					
(a) College algebra					
(b) Plane trigonome- try					
(c) Solid geometry					

Conditions.....units

.....units

.....units

Total.....units

Dated.....191....

For the board of examiners.

Surplus subjects.....

(Page 3 of folder.)

M.....is entitled to college credit
without examination as noted below for work completed in

.....
 { College.
 { University.

This credit is to be written up after

approval by the chairman of the committee on advanced standing, and is subject to
the completion of a semester's work in a satisfactory manner. Credit as follows:.....

Date.....191....

For the committee on advanced standing.

[Page 4 of folder.]

REQUIREMENTS FOR ADMISSION.

Candidates for admission to the college of liberal arts of Northwestern University must qualify by examination or by certificate on 15 units of high-school work. The unit is a course of study requiring a daily recitation on a prepared topic for a full school year, and covering in the various subjects the work defined in the university catalogue. These definitions of units are the same as those adopted by the North Central Association of Colleges and Secondary Schools. Two hours of laboratory work are counted as the equivalent of one hour of prepared recitation.

The subjects which may be presented for admission credit and the number of units acceptable in each are shown in the following table. English, three units; algebra, one or one and one-half units; and plane geometry, one unit, are required of all candidates. A choice is allowed in the selection of other subjects, but at least four units of foreign languages must be presented. These may be four units of Latin, or three units of one language and one unit of another, or two units of each of two languages. A single unit of any language will be accepted only when accompanied by at least three units of some other language or two units of each of two others. The remaining work may be selected at will from the subjects listed.

SUBJECTS WHICH MAY BE PRESENTED FOR ENTRANCE CREDIT.

The first three subjects in the amounts indicated are required of all candidates.

	Units.		Units.
English.....	3	Botany.....	1
Algebra.....	1 or 1½	Zoology.....	1
Plane geometry.....	1	Chemistry.....	1
		Ancient history.....	1
Latin.....	2, 3, or 4	Medieval and modern history...	1
Greek.....	2 or 3	English history.....	1
German.....	2 or 3	American history (or with civil	
French.....	2 or 3	government).....	1
Spanish.....	2	Civil government.....	½
Advanced algebra.....	½	Political economy.....	½
Plane trigonometry.....	½	Commercial geography.....	½
Solid geometry.....	½	Commercial law.....	½
Physiography.....	1	Physiology.....	½
Physica.....	1	Subjects not specified.....	2

Under the heading "Subjects not specified" such topics as manual training, domestic science, mechanical drawing, etc., may be presented at the discretion of the board of examiners. Subjects enumerated above as full units may be presented as half units, or they may be presented in excess of the amounts stated, only as "Subjects not specified" and such credit is thus limited to two units.

A candidate with not more than two units of condition may be admitted to college as a regular student at the beginning of the year, but all deficiencies must be made up within one year.

Persons of serious purpose and mature years may be admitted as special students for courses which they are qualified to pursue and which are not to be had elsewhere than in college. In general, special students must meet the regular entrance requirements.

[FORM II.]

KNOX COLLEGE.

APPLICATION FOR ADMISSION.

THE FOLLOWING INFORMATION IS REQUIRED OF ALL APPLICANTS.

Date,

1. Name of applicant.....

First name.

Middle name.

Surname.
2. Home address.....
3. Galesburg address.....
4. Place of birth..... Date..... Age in years.....
5. Name of father (or guardian).....
6. Post-office address of the same.....
7. Occupation of father.....
8. Place of preparation for college, the years spent in each school, and the names of the principals:

(a), years....., principal.....

(b), years....., principal.....

(c), years....., principal.....
9. If you have attended college, give the name of the college and the time spent therein.....
10. If you have taught in any school, state the number of years of such service.....
11. What college degree do you seek to obtain?.....
12. What are your plans after graduation?.....
13. Are you a member of a church?.....
14. If so, of what denomination?.....
15. If not a member, what church are you accustomed to attend?.....

Signed.....

[Reverse.]

REPORT OF THE COMMITTEE ON ENTRANCE REQUIREMENTS AND CLASSIFICATION.

M....., candidate for.....
degree, entering from.....School, is entitled to
entrance credits as follows:

	Units.		Units.
ENGLISH:		LATIN:	
Composition and rhetoric		First year	
Required readings		Second year	
History of English literature		Third year	
History of American literature		Fourth year	
HISTORY AND CIVICS:		GREEK:	
		First year	
		Second year	
		Third year	
MATHEMATICS:		GERMAN:	
Algebra		First year	
Plane geometry		Second year	
Solid geometry		Third year	
Trigonometry		FRENCH:	
SCIENCE:		First year	
Physics, laboratory work		Second year	
Chemistry, laboratory work		Third year	
Botany, laboratory work			
Zoology, laboratory work			
Physiology, laboratory work			
Physiography			
		Total number of units	

Deficient.....elective units, and.....specified units as follows:

 Advanced credits.....

 Remarks:

 Date.....

 Chairman of Committee.

[Blank sheet attached to above.]

REQUIREMENTS FOR ADMISSION TO KNOX COLLEGE.

Fifteen units ¹ are required for admission. All candidates for entrance must present the following units:

- | | |
|--|---------|
| (1) English (composition and rhetoric, 1; reading in the classics, 2)..... | 3 |
| (2) Foreign ² languages (2 years in same language)..... | 2 |
| (3) Mathematics (algebra, 1 or 1½; plane geometry, 1)..... | 2 or 2½ |
| (4) Science (physics recommended)..... | 1 |
| (5) History (a year's course in ancient history is strongly recommended). | 1 |

³ 9 or 9½

¹ A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work.

² Foreign languages accepted include Latin, Greek, and modern foreign languages.

³ Depending on the amount of algebra presented.

The remaining 5½ or 6 units may be in any subjects accepted for graduation from a recognized secondary school; provided, however, that not more than one unit may be presented in any vocational subject counted toward graduation in a recognized secondary school.

A student presenting the units specified above and enough more to total 13½ will be admitted to the freshman class on condition that the deficiency in entrance units shall be made up in the first year.

All first-year students are considered as registered provisionally during the first semester. Those receiving satisfactory grades for the first semester are considered as permanently enrolled.

Students may enter by examination or by presenting credentials from a recognized secondary school. Certificates should be made out upon blank forms which will be supplied to principals by the registrar upon request. Applicants should, if possible, forward these credentials previous to the opening of the college year. It is often most convenient to obtain them before the close of the high-school year. Upon receipt of these credentials by the college a statement of the student's standing will be forwarded to him. He then has no further responsibility in the case until registration day for new students, as announced in the catalogue.

2. PREPARATORY SCHOOL CERTIFICATE.

This is the basis of the admission plan of a majority of American universities and colleges. It is made out and signed by the head of the preparatory school, which usually has been inspected and approved by the college, State education department, or State university as equipped to prepare students for college. This is one of the two indispensable forms for college registration.¹

¹ The other being the permanent record form, to be shown later.

Several educational associations or groups of institutions have for some time endeavored to secure the adoption of uniform school certificates, each in its own section. Chief among these are the North Central Association of Colleges and Secondary Schools and the Association of Colleges and Secondary Schools of the Southern States. In spite of these movements, some institutions prefer to use their own forms, differing in a greater or less degree from those recommended by the associations; so that it seems advisable to reproduce several of the independent forms, as well as those used by associated colleges. As suggested above, by adding to the school certificate the few additional questions contained in the application blank, the small college need use but one form for filing all of a student's record previous to entering college.

Of the school certificates illustrated, the one recommended by the North Central Association of Colleges and Secondary Schools (Ig) and that of Harvard College (Ih), while differing in form, demand practically the same information, both being very complete. They differ chiefly in the fact that the North Central blank (Ig) prints the names of the studies and furnishes a column to state the year in which each is given, while Harvard (Ih) groups the studies in the different years, but leaves the subjects to be written in. The Allegheny College blank (Ik) is a model of brevity and compact arrangement. Other examples are those of the University of Rochester (Im) and of Dartmouth College (In).¹

Questions covering the following points are common to the best secondary school certificates.

PREPARATORY SCHOOL CERTIFICATE.

(Questions in *italics* are not usually asked, but are advisable.)

A. Applicant:

1. Name and home address.
2. Place and date of birth. *Age.*
3. Church preference or connection.

B. Parents or guardians:

1. Name and address.
2. Occupation.

C. Preparatory school:

1. Name and location of school.
2. Period in attendance.
3. Graduate? *Date.*
4. If any of the subjects certified were taken at another school, give name and date of attendance.

¹ In practice the certificate is examined by the proper officers of the college and the student notified of the result. No example of notification form is given here, although several were submitted, showing admission by full certification, by part certification and part examination, by full certification with entrance conditions, and of failure to qualify. Frequently the preparatory school is also notified of its student's success on a special blank for that purpose.

D. System of grading students in preparatory school:

1. Length of recitation period.
2. Number of customary class periods per week for each student.
3. What is the marking system? Especially, what is the passing grade?
4. *Is grade determined by (a) regular class work? (b) by examination? or (c) by judgment of the instructor?*
5. *Laboratory work—Length of period? Relation to recitation periods?*

E. School record—Names of studies in detail:

1. Textbooks and amounts covered.
2. Number of weeks studied.
3. Number of periods per week.
4. Year in which subject was taken, first, second, third, or fourth.
5. Class standing in each subject.
6. Value of subject in entrance units.
7. Remarks.¹ *Especially give home reading and supplementary study.*

F. Personal peculiarities:

1. *Quick or slow student.*
2. *Outside interests.*
3. *General remarks.*

G. The college:

1. Course to be entered.
2. Entrance units required.
3. Entrance units offered—
 - a. By certification.
 - b. By examination.
 - c. By condition (unprepared).
4. A copy of abstract of rules for admission, self-government pledge, etc., printed on the blank.

H. Certificate of good moral character.**I. Signature of principal of preparatory school.**

Date of certificate.

[FORM 1g.]

[Folder of four pages.]

Uniform blank adopted by the North Central Association of Colleges and Secondary Schools, modified to meet Iowa usages.

NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

This is to certify that.....
 who was graduated from the.....High School
 on the.....day of....., 191....., is a person of
 good moral character and studious habits, has satisfactorily completed preparatory
 studies as herein indicated, *and is recommended as able to carry forward college work.*

The amount and quality of the work completed in the several subjects required are
 given in the table on the following pages. Total number of units.....

.....
 Principal or superintendent.

This certificate will be accepted by all universities and colleges in Iowa.

Name of college course candidate desires to pursue.....

¹ None of the forms submitted asks specifically regarding the student's record in student activities. It might be desirable to introduce a few questions dealing with athletics, musical or literary clubs, membership in secret societies, and other personal tastes. None of the colleges submitting forms seems interested in the race, color, or nationality of its prospective student. Only one asks his intention for life after graduation; one wants to know if he has been successfully vaccinated; one (a member of the College Entrance Examination Board) asks where he intends to take the examinations; and one asks regarding previous teaching experience from its prospective normal students.

[Page 2 of folder.]

Age of applicant,years.

Regular total number of class periods

Laboratory periods,minutes.

per week for each pupil,

Recitation periods,minutes.

N. B.—Blank spaces are left under each subject for additions, such as bookkeeping, manual training, drawing, etc.

Branches of study.	Years in course (1st, 2d, 3d, or 4th).	Textbooks. (Need not be given if school is accredited.)	Number of weeks pursued.	Number of periods per week.	Average standing.	Units granted. (Do not write in spaces below.)	Remarks.
ENGLISH: Composition and rhetoric.							
American literature (with classics in prescribed list).							
History of English literature (with classics in prescribed list).							
Classics read in addition to prescribed list (or equivalents).							
Grammar.....							
HISTORY: Ancient history..							
Medieval and modern history.							
English history.....							
United States history...							
Civil government.....							
Political economy.....							
MATHEMATICS:							
Algebra to quadratics...							
Algebra, quadratics, theory of exponents, progressions, ratio, and proportion.							
Plane geometry.....							
Solid geometry.....							
Plane trigonometry.....							
Arithmetic (after algebra).							
SCIENCE: Physics.....							
Chemistry.....							
Botany.....							
Zoology.....							
Biology.....							
Physiology.....							
Physiography.....							

[Page 3 of folder.]

Passing grade, per cent.

Branches of study.	Years in course (1st, 2d, 3d, or 4th).	Textbooks. (Need not be given if school is accredited.)	Number of weeks pursued.	Number of periods per week.	Average standing.	Units granted. (Do not write in space below.)	Remarks.
GREEK: Grammar and reader.							
Xenophon..... ¹ books.							
Composition..... ¹ pages.							
Homer..... ¹ books.							
LATIN: Grammar and reader							
Caesar..... ¹ books.							
Cicero..... ¹ orations.							
Virgil..... ¹ books.							
Composition..... ¹ pages.							
Viri Romae..... ¹ pages.							
Junior Latin..... ¹ pages.							
FRENCH: Grammar and reader.							
Second year.....							
Third year.....							
Fourth year.....							
GERMAN: Grammar and reader.							
Second year.....							
Third year.....							
Fourth year.....							

¹ Be sure to indicate the number of books, orations, pages.

[Page 4 of folder.]

CERTIFICATE OF

From.....

NAME OF SCHOOL.

Date.....

Units.....

Deficiencies

(FORM 1b.)

[Four-page folder.]

HARVARD COLLEGE.

1914.

APPLICATION FOR THE APPROVAL OF A SCHOOL RECORD FOR ADMISSION UNDER THE
NEW PLAN.

Candidates for admission under the new plan should present their school records for approval as early as possible and not later than two weeks before their examinations.

No fee should be sent with this application. If the record sent herewith is approved, a blank form of registration with directions as to the fee will be sent with the notice of approval.

Name in full.....

Date of birth (month, day, year).....

Name of father or guardian.....

Home address (street, city, State).....

High schools or academies attended, and the dates of entering and leaving each
school:

.....

Name of principal of last school attended.....

For which degree do you wish to register—A.B. or S.B.?.....

At what place shall you present yourself for examination?.....

If you have already taken examinations, either those of Harvard or those of the College
Entrance Examination Board, give the date or dates of those examinations.

.....

Underline in the list of studies below those subjects in which you wish to present yourself for examination.

COMPLETE LIST OF ADMISSION STUDIES (NEW PLAN). .

English.

German.

Mathematics.

Greek.

French.

Physics.

Latin.

History.

Chemistry.

[Page 2 of folder.]

SCHOOL RECORD.

FIRST YEAR (Date,).

[illegible]

SECOND YEAR (Date,).

Studies.	DESCRIPTION OF STUDIES. Textbooks and amount covered, authors read, supplementary work, etc.	No. of weeks.	Periods per week.	Length of period.	Grade.

(Twelve blank lines, as under first year.)

State the time given to laboratory work and describe the kind of work done.

[Blanks for third and fourth years, on page 3 of folder, same as for first year.]

CERTIFICATE OF PRINCIPAL OR HEADMASTER.

I hereby certify that the record given above is correct.

(Signed)

Date.....

[Page 4 of folder.]

EXPLANATION OF GRADES ENTERED IN THIS APPLICATION.

The principal or headmaster who signs the record presented in this blank is requested to explain the system of marking used in his school. The committee on admission especially desire to know what grades are regarded as honor grades and what grades indicate failure and poor work.

[Blank space on balance of page.]

(Signature of principal or headmaster.)

Date,

(FORM II.)

ALLEGHENY COLLEGE.

RECOMMENDATION FOR ADMISSION TO ALLEGHENY COLLEGE, MEADVILLE, PA:

This is to certify that M.....residing at.....is a graduate of the.....school of the year....., and has pursued courses in the subjects marked off from the list below, gaining the credit therein recorded; and that he is recommended for admission to Allegheny College. I further recommend that the above student is a person of good moral character.

Signed.....Principal.

Unit value.	Subjects. ¹	Length of course—			Number and length of periods of laboratory work included in former.	Textbook used in class and laboratory.	Pass mark used in school Class grade gained in this subject.	Remarks.
		In weeks.	Periods per week.	Length of period.				
.....	English, first year.	.....	.....	.....	.....	.....	.....	.....
.....	English, second year.	.....	.....	.....	.....	.....	.....	.....
.....	English, third year.	.....	.....	.....	.....	.....	.....	.....
.....	English, fourth year.	.....	.....	.....	.....	.....	.....	.....
.....	El. algebra.	.....	.....	.....	.....	.....	.....	.....
.....	Adv. algebra.	.....	.....	.....	.....	.....	.....	.....
.....	Plane geometry.	.....	.....	.....	.....	.....	.....	.....
.....	Solid geometry.	.....	.....	.....	.....	.....	.....	.....
.....	Trigonometry.	.....	.....	.....	.....	.....	.....	.....
.....	Latin (grammar).	.....	.....	.....	.....	.....	.....	.....
.....	Latin (Caesar).	.....	.....	.....	.....	.....	.....	.....
.....	Latin (Cicero).	.....	.....	.....	.....	.....	.....	.....
.....	Latin (Vergil).	.....	.....	.....	.....	.....	.....	.....
.....	Greek (Reader and prose comp.).	.....	.....	.....	.....	.....	.....	.....
.....	Greek (Anabasis).	.....	.....	.....	.....	.....	.....	.....
.....	Greek (Homer).	.....	.....	.....	.....	.....	.....	.....
.....	French, first year.	.....	.....	.....	.....	.....	.....	.....
.....	French, second year.	.....	.....	.....	.....	.....	.....	.....
.....	French, third year.	.....	.....	.....	.....	.....	.....	.....
.....	German, first year.	.....	.....	.....	.....	.....	.....	.....
.....	German, second year.	.....	.....	.....	.....	.....	.....	.....
.....	German, third year.	.....	.....	.....	.....	.....	.....	.....
.....	Ancient history.	.....	.....	.....	.....	.....	.....	.....
.....	Medieval and modern history.	.....	.....	.....	.....	.....	.....	.....
.....	U. S. history.	.....	.....	.....	.....	.....	.....	.....
.....	English history.	.....	.....	.....	.....	.....	.....	.....
.....	Civics.	.....	.....	.....	.....	.....	.....	.....

¹ Other subjects, not included here for lack of space, are: Drawing (freehand and mechanical), botany, zoology, biology, chemistry, physics, physiography, physiology, geology, other subjects.

It is distinctly understood that the acceptance of certificates is provisional. In case the student's work is not successful in college classes, additional preparatory work may be required. Permission to send students by certificate will ultimately be withdrawn from schools whose students prove to be imperfectly prepared. In all doubtful cases, the teacher is requested to throw the responsibility of the examination upon the college.

[FORM Im.]

UNIVERSITY OF ROCHESTER.

CERTIFICATE OF CANDIDATE FOR ADMISSION.

..... No. Street.
 [Full name of candidate.] [Address.]
 PREPARED AT
 (Name of school) (Location.) (Principal.)
 The above to be filled out by the principal.
 Candidate notified by the recorder.....191..
 Date.....

TO THE FACULTY OF THE UNIVERSITY OF ROCHESTER.

I. Certificate of Moral Character.

I have been personally acquainted with.....for....
 years and recommend h.... as a person of good moral character.

 Signature of principal.

II. Certificate of Qualification.

I hereby certify that has pursued and completed
 to the satisfaction of the faculty of.....the studies *not*
crossed out in the following schedule; a point being defined as a subject pursued for an
 entire school year with five exercises a week of not less than 40 minutes each.

Studies.	Points.	Average grade attained.
English.....	3	If letters are used to indicate grades, the principal will attach a memorandum explaining their significance.
History:		
American and civics.....	1	
Ancient.....	1	
English.....	1	
Medieval and modern.....	1	
Mathematics:		
Algebra—Elementary (1), intermediate (3).....	1½	
Geometry.....	1	
Review of algebra and geometry ¹		
Latin:		
Grammar and first year ¹	1	
Caesar.....	1	
Cicero and prose composition.....	1	
Vergil.....	1	
Greek:		
Grammar and first year ¹	1	
Xenophon and prose composition ¹	1	
Homer.....	1	
German:		
Elementary (first and second year).....	2	
Intermediate (third year).....	1	
French:		
Elementary (first and second year).....	2	
Intermediate (third year).....	1	
Advanced mathematics:		
Advanced algebra.....		
Solid and spherical geometry.....		
Plane and spherical trigonometry.....	½	
Physics, ² with laboratory notebook for 40 or more experiments.....	1	
Chemistry, ² with laboratory notebook for 35 or more experiments.....	1	
Advanced botany ²	1	
Advanced zoology ²	1	
Physical geography ²	1	
Physiology ²	½	
Other subjects.....		

¹ In Latin grammar and prose composition, Greek grammar and prose composition, algebra and geometry, no certificate will be accepted for work that has not been pursued or reviewed within the year preceding the time of admission. Solid geometry may be substituted for the review of plane geometry and either trigonometry or advanced algebra for the review of algebra.

² Laboratory notebooks must be presented for all work in science offered for admission.

In view of the work completed as certified above, and because of my personal knowledge of the ability and maturity of the student named, I consider h.... well fitted to pursue college work in the course at the University of Rochester with profit to the student and credit to the university.

.....
 Signature of principal.

[FORM 1a.]

DARTMOUTH COLLEGE.

CERTIFICATE OF QUALIFICATION FOR ADMISSION TO THE FRESHMAN CLASS.

I,, Principal of the
 School in
 hereby certify that
 of (home address)
 has been a pupil in this school from to
 and that he was graduated in, 191..

I certify that the candidate has pursued in this school the courses (and in the amounts) given in the following table, and I further certify that the content of every course with which the candidate is credited includes the prescriptions for that subject as specified in the requirements for admission to Dartmouth College, and that for every unit with which he is credited he has satisfactorily completed work of not less than 120 one-hour exercises or their equivalents.

Subjects.	Units.	Subjects.	Units.
English A.....		Solid geometry.....	
English B.....		Trigonometry.....	
Greek 2 years.....		History A (ancient).....	
Greek 3 years.....		History B (European).....	
Latin 2 years.....		History C (English).....	
Latin 3 years.....		History D (American).....	
Latin 4 years.....		Physics.....	
French (elementary).....		Chemistry.....	
French (intermediate).....		Botany.....	
German (elementary).....		Zoology.....	
German (intermediate).....		Physiology.....	
Spanish (elementary).....		Mechanical drawing.....	
Algebra A ₁ and A ₂		Total units.....	
Plane geometry.....			
Advanced algebra.....			

Erase subjects for which no credit is given. In certifying Greek and Latin mark only the maximum number of years taken.

I certify that the candidate is of good moral character.

I certify that the candidate ranked number in a class of pupils.

I certify that the candidate is fully equipped by ability, industry, and knowledge of the subjects for which he has been credited in this certificate to pursue successfully the course leading to the degree of Bachelor of ^{Arts} in Dartmouth College, and I recommend that he be given credit without examination for the number of units hereby certified towards admission to the freshman class of Dartmouth College in September, 191 .

Signed.....

Principal.

Date,

Certificates are accepted only from those schools which have been approved for the certificate privilege of admission.

For admission to the freshman class without condition a candidate must secure credit for fourteen and one-half units.

Candidates should meet the requirements in full; but a certificate will be accepted if it covers eight units of the requirements, and the candidate will be examined on the remainder; if the certificate fails to cover at least eight units of the requirements, the candidate must be examined in full. When a candidate has received his preparation in more than one school, single certificates for less than eight units will be accepted, provided the total certification amounts to eight units.

This certificate should not be given to the candidate, but should be filled out and mailed by the Principal to the Dean of Dartmouth College, Hanover, N. H.

[Reverse.]

Class of.....

Name,; address,
School,; principal,

English.....		Ancient history.....	
Greek.....		European history.....	
Latin.....		English history.....	
French.....		American history.....	
German.....		Physics.....	
Spanish.....		Chemistry.....	
Algebra A ₁ and A ₂ ...		Botany.....	
Plane geometry.....		Zoology.....	
Advanced algebra...		Physiography.....	
Solid geometry.....		Mechanical drawing.	
Plane trigonometry..			

(This page is not to be filled out by the applicant or the school.)

II. AT ENTRANCE.

REGISTRATION OR MATRICULATION.

While matriculation usually means admission to class standing and registration means simply a formal notice of being present at the institution, the terms are so confused in ordinary practice as to become synonymous; consequently no distinction is made in the examples given.

Registration or matriculation frequently involves the use of two forms, one a card giving name and supplementary facts (a personal directory index), the other giving in detail the class to be entered and subjects to be studied (a class assignment card). Some institutions combine the two into a single form.

Examples of the personal index card are that of the Municipal University of Akron (IIa) and the State University of Iowa (IIb). The State University of Kentucky (IIc) uses this card in triplicate, the extra copies being for the dean's office and other supplementary records. Miami University (IIc and IId) accompanies the index card with a class assignment sheet, and De Pauw uses two cards, one (IIe) an index, and the other (IIg) a study card.

Although the majority of institutions show the two-card system, yet, for the small institutions especially, there seems to be no reason why one combined form might not be used. But whether two forms are used or a combined card, the detachable coupon card has certain advantages. In this a coupon is provided for each operation—payment of fees, entering each class, etc. These are detached by the bursar, professor, or other officer. The coupons may be used either for permanent filing or for the temporary information of the various

officials into whose hands they come. An excellent card of this style is used by the Massachusetts Agricultural College (IIh) for class assignment only. Another, somewhat different in form, is that of the State University of Iowa (IIk).

An examination of forms used by 25 different institutions assembles the following questions for a complete registration record. If it is desirable to use two forms, one for registration and another for class assignment, a division will readily suggest itself.

REGISTRATION CARD.¹

Part I.—Student's Directory.

1. Name in full.....
2. Home address.....
3. College address.....
4. Place and date of birth..... Age.....
5. Church membership or preference.....
6. Name of parent or guardian.....
7. Address of parent or guardian.....
8. Occupation of parent or guardian.....
9. Preparatory school from which certificate was offered.....
10. (For freshmen only.)
 - A. Entrance subjects offered.....
 - B. Entrance units credited.....
 - C. Entrance conditions.....
11. (For other students.) Subjects on which failed or conditioned.....

Part II.—Class Assignment Blank.

1. College, school, or course.....
2. Class.....
3. Subjects selected in detail.
 - A. Required subjects and elective subjects grouped or marked.....
 - B. Hours per week in each subject.....
 - C. Time and day of each recitation.....
 - D. Value of each in units.....
 - E. Number of the division of the class.....
 - F. Name or signature of the professor or instructor.....
 - G. Location of classroom.....
4. Approval of college officers.....
5. Bursar or treasurer.....
 - Fees in detail.....
6. Date.....

¹ Some questions asked by one or two institutions seem worthy of consideration, such as: "In what athletic sports do you participate?" "Are your parents college graduates? If so, of what college?" "Are you self-supporting, wholly or in part?" "Have you a scholarship?" One institution gives a brief statement of the marking system used. The two municipal universities submit forms requiring statements of length of time resident in the city, ward, or district. Two institutions provide a special detachable coupon with information for the athletic association, including athletic fees. Among the questions which seem unnecessary on this form are: "Probable future occupation." "Nationality, race, or color of applicant." "Is your father a United States citizen?" "Amount of academic work or reading in addition to required work." "Have you living brothers or sisters?" Some of these questions have been suggested for the preparatory school certificate.

[FORM IIa.]

THE MUNICIPAL UNIVERSITY OF AKRON.

Buchtel College of Liberal Arts.

REGISTRATION CARD.

Do not fill these blanks { No.
 { Date
 Name in full.....
 (last name first)
 Address while in college.....
 Date and place of birth.....
 From what secondary school graduated.....
 When graduated.....
 Church preference.....
 Parent or guardian (to be filled out by the student):
 Name.....
 Address.....
 Is this address within the corporate limits of Akron?.....
 Occupation.....
 What is the length of your continuous residence in Akron immediately prior to this date?.....
 Where did you reside before coming to Akron?.....

[FORM IIb.]

THE STATE UNIVERSITY OF IOWA, IOWA CITY.

MATRICULATION BLANK.

To be filled out once only: On entrance to the university.

..... Date.
 Full name.....
 Home address: No. and St. City.....
 County..... State.....
 Date of birth: Month..... Day of month..... Year.....
 Place of birth: State or Country..... Nationality.....
 Church membership..... or Preference.....
 Name of parent or guardian.....
 Address: City..... State.....
 Occupation of father.....
 Name of wife or husband, if married.....
 Institutions previously attended (give names or locations):
 High school..... Years attended..... Year graduated.....
 Academy..... " " " "
 Normal school..... " " " "
 College..... " " " " Degree.....
 University..... " " " " " "
 Iowa City address: No. and St. Tel. No.

[FORM IIc.]

[Triplicate copies with perforations for separating.]

STATE UNIVERSITY OF KENTUCKY.

No.

.....

First name.	Second name.	Last name.
-------------	--------------	------------

Date of birth.....

Month.	Day.	Year.
--------	------	-------

Home address.....

Street..... No.....

County..... State.....

Name of parent or guardian.....

His occupation.....

His P. O. address.....

Church preference.....

Are you a member?

Of what school, if any, are you a graduate?

.....

Are you a county appointee?

What course do you wish to enter?

Lexington address.....

..... 1913.

Date.

[FORM IIId.]

No. Date....., 191....

MIAMI UNIVERSITY.

MATRICULATION CARD.

The honor system of examination was adopted by the Miami students in January, 1912. No student should enroll who is unwilling to abide by the following pledge:

I pledge myself to support the honor system at Miami to the utmost of my ability, and not only myself to act in accordance with what I conscientiously believe to be its spirit, but also to encourage others to do the same. I make voluntary application for admission as a student in Miami University and pledge myself to abide by and implicitly obey all rules and regulations of said institution, and to endeavor, at all times, to preserve its good name so long as and whenever I shall be a student therein.

.....

Sign in full (Clark, John Christopher.)

Date of birth: Month..... Day..... Year.....

Home address: No. Street, City....., State.....

Name of parent or guardian.....

Occupation..... Address.....

Where were you prepared for college?

Experience as a teacher.

Name of last school attended.....

How long did you attend it?

The Christian Association also requests the following:

Are you a member of any church? What church do you attend?

(FORM No.—MIAMI UNIVERSITY.)

FRESHMAN ELECTION SHEET.

ENTRANCE CREDITS.

English.....		Physical geography.....		Latin.....	
History.....		Agriculture.....		Greek.....	
Mathematics.....		Astronomy.....		Spanish.....	
Chemistry.....		Geology.....		German.....	
Physics.....		Physiology.....		French.....	
Botany.....		Drawing.....		Domestic science.....	
Zoology.....		Manual training.....		Commercial geography.....	

Entrance conditions.....

Conditional advanced standing.....

Probable future occupation.....

Check here.	Section.	Hours.	(Indicate hour of day.)						Instructor.
			M.	Tu.	W.	Th.	F.	S.	
Required studies:									
English 1.....		3							
Mathematics 1.....									
Languages:									
Latin.....		4							
Greek.....									
French.....		4							
German.....		4							
Spanish.....		4							
History:									
History 2 (Europe).....		3							
History 1 (American).....		3							
Latin 8 (Roman).....		1							
Sciences:									
Botany 1.....		4							
Chemistry.....		4							
Geology 1.....		4							
Physics 1.....		4							
Zoology 1.....		4							
Freshman lecture.....		1						8:30	
Physical training.....		1							

Name of student in full, last name first.

Date.

Approved:

Adviser.

[FORM IIc.]

DEPAUW UNIVERSITY.

[Card with two stubs.]

DEFAUW UNIVERSITY STUDY CARD.

Name..... Second semester, 1913-14.

No. COLLEGE OF LIBERAL ARTS. Class.....

[illegible]

FEES.

Academy, incidental.....	\$18.00
College, incidental.....	30.00
Physical culture.....	2.00
Diploma.....	5.00
Laboratory:	
Biology.....	4.00
Chemistry, except courses 3, 4, and 9.....	7.50
Physics, except courses 5, 6, 7, and 8.....	2.00
Extra hours.....	2.00
Music and art per hour.....	1.50
Total fees.....	100.00

[Reverse.]

ENTRANCE DEFICIENCIES.

REQUIRED WORK:

Rhetoric.
Physical culture.
Group I.
Group II.
Group III.
Group IV.

MAXIMUM.

INELIGIBLE FOR READMISSION.
INELIGIBLE FOR FULL HOURS.

[Detachable stub.]

DEPAUW UNIVERSITY.

BURSAR'S STUB.

SECOND SEMESTER, 1913-14.

No.

Fees due from

Total amount \$.....

Payable at the Central National Bank.

[Detachable stub.]

DEPAUW UNIVERSITY.

STUDENT'S RECEIPT.

SECOND SEMESTER, 1913-14.

No.

Fees received from

Total amount \$.....

Keep this receipt.

This stub must be presented as an admission ticket to all athletic contests.

[FORM IIg.]

To be used by ALL students.

DEPAUW UNIVERSITY REGISTRATION CARD.

Date....., 191....

Name in full.....

First name.	Middle name.	Last name.

Parent (or guardian).....

Permanent (home) address:

Street.....

City (or town).....

County.....

State.....

Greencastle address
(Give both street and number.)

School of university.....

Religious denomination of which a member.....

Religious denomination of which an adherent.....

[FORM IIh.]

MASSACHUSETTS AGRICULTURAL COLLEGE.

[Card in two parts, with perforations.]

[Part one.]

ELECTIVES—FIRST SEMESTER. M. A. C.

Name of student.....

MAJOR..... CLASS 191....

Name of parent or guardian.....

Address of parent or guardian.....

[illegible]

TO THE ADVISER:

In entering the courses above be good enough to see that ALL courses are entered in the ORDER given in the catalogue, courses in agriculture coming first, horticulture next, etc.

THIRTY credits are controlled by the adviser, the balance of credits of the junior and senior years being optional with the student, subject to college regulations.

Approved, June 19....

.....Adviser.

[Part two.]

TO THE STUDENT:

Enroll for each course by writing your name and *class* as well as name and number of course in the spaces provided below. Give catalogue name and number of course; e. g., French 5, Botany 12.

Courses in military science should be included below.

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

Name of student..... Class.....

Course, name, and number.....

[FORM III.]

THE STATE UNIVERSITY OF IOWA, IOWA CITY.

[Form of registration card used in the University of Iowa, but varied to suit the needs of the colleges.]

MEMORANDUM.

....., 191....

being entitled to preparatory units, as follows:

- | | | |
|----------------|--------------------------|-------------------|
| 1. Greek..... | 5. English..... | 9. Science..... |
| 2. Latin..... | 6. History..... | 10. Elective..... |
| 3. French..... | 7. Algebra..... | |
| 4. German..... | 8. P. & S. geometry..... | |

may be registered in the course in the College of Liberal Arts.

Conditions:

- | | |
|----------|--------|
| 1. _____ | Units. |
| 2. _____ | |
| 3. _____ | |

_____ University examiner.

THE STATE UNIVERSITY OF IOWA.

Iowa City.

TUITION.

City address..... Telephone No.....

College of Liberal Arts.

\$10.00, Tuition for the { First semester.
Second semester.
Summer session.

\$10.00, Matriculation fee.

THE STATE UNIVERSITY OF IOWA.

Iowa City.

PERMIT TO REGISTER.

To the registrar:

....., 191....

being entitled to preparatory units, and having fulfilled all other requirements for admission, may be registered as a student in the College of Liberal Arts..... course..... year, upon payment of the matriculation fee and tuition.

Matric. fee paid: Amt., \$10.00

Tuition paid: Amt.,

_____ University examiner.

_____ Secretary.

N. B.—Present this card first to the secretary, and then to the registrar.

\$20.00

THE STATE UNIVERSITY OF IOWA,

Iowa City.

RECEIPT.

Received of Ten Dollars, matriculation fee, and Ten Dollars, tuition for the semester in the College of Liberal Arts.

Secretary.

[Reverse of registration stub.]

Preparatory units:

- | | | |
|----------------|--------------------------|-------------------|
| 1. Greek..... | 5. English..... | 9. Science..... |
| 2. Latin..... | 6. History..... | 10. Elective..... |
| 3. French..... | 7. Algebra..... | ..... |
| 4. German..... | 8. P. & S. geometry..... | ..... |

Conditions:

- | | |
|---------|-------------|
| 1. | Units. |
| 2. .... | ..... |
| 3. .... | ..... |

University examiner.

III. DURING THE COLLEGE COURSE.

After matriculation the number and variety of forms used will depend on the individual institution. Examples of some of the many different forms are shown in Appendix D. Of all records taken during the course, the student's class records, usually compiled at the end of each semester, are most important. The permanent record blank is designed to hold these.

PERMANENT RECORD FORM.

This form should contain, besides the class records, certain other fundamentals—name and personal history, record of admission and precollegiate work, and possibly a brief alumni record. This is one of two indispensable record forms, the other being the preparatory school certificate.

Three distinct types of permanent records are used. A large number of institutions follow the old custom of keeping their permanent records in bound books; others are using a card system because of its convenience, while the loose-leaf book record is popular for the same reason, having the further advantage of compactness where a large number of records are kept. Some institutions use several cards or records, an extreme case being where a different card is used for each student each year. In general, however, the academic record of each student is kept on one card or ledger sheet.

A brief comparison of a few of the forms in actual use perhaps will be of service.

Randolph-Macon Woman's College (III a) uses both sides of a loose-leaf ledger sheet and finds room for a brief *alumnæ* record. The University of Rochester (III b) also uses a loose-leaf sheet and gets all its information on one page; it substitutes a brief abstract of the financial relations of the student to the institution for the alumni record. The University of Kansas (III c) also uses one page of a loose-leaf ledger sheet, obtaining considerable reduction in size, but omitting both the alumni and financial records.

Among the card forms, that of the University of Cincinnati (III d) does not divide the course into years, although in practice this is done by rulings under the subjects written in for each year. While this form economizes space, it seems hardly as precise as the form used by Harvard College (III e). The use of both sides gives space for a very complete record. The form of Harvard College (III e) shows an excellent arrangement for class record. It also calls for a personal history, but for no financial, alumni, or student activity record. The reverse side of the form is not used. The State University of Iowa (III f) does use the reverse for some of these questions and shows the same study arrangement as the University of Cincinnati (III d). Northwestern University (III g) shows an arrangement of studies for five years, thus covering a possible post-graduate year. None of the others shows this, and yet a single graduate year is becoming quite common, while five-year courses, especially in engineering, are well established. De Pauw University (III h) and the College of Wooster (III k) illustrate the use of smaller cards.

From this comparison it is seen that an excellent form can be devised using a card about $8\frac{1}{2}$ by $11\frac{1}{2}$ inches, a standard size. For loose-leaf ledger purposes a longer form will be found more convenient; it should be printed leaving a wide binding margin and may be as large as 11 inches in width and 15 or even 20 inches in length. The use of both sides of either card or page gives much more room and seems advisable.

A comparison of forms used by over 25 different institutions indicates that a permanent record form may appropriately give the following information; in spreading it on the card it is suggested that the Harvard (III e) and Northwestern (III g) forms might serve for a basis of arrangement, the personal history and class records being on the front, and the reverse side used for the financial, student activity, and alumni records.

PERMANENT RECORD FORM.

(Use a different color for each college of a university.)

[Front.]

1. Name in full. Class.
2. Home address.
3. Date and place of birth. Age.
4. Church affiliation.
5. Name of parent or guardian.
6. Address of parent or guardian.
7. Occupation of parent or guardian.

Preparatory school.

1. Name and address of preparatory school.
2. Name and address of other schools.
3. Preparatory subjects in detail, giving for each—
 - (a) Value in units or hours.
 - (b) Credit for certification.
 - (c) Credit by examination.
 - (d) Conditions—when removed.
4. Subjects and credits for advanced standing.

Collegiate record.

1. College.
2. Course.
3. Degree.
4. Date of matriculation.
5. Date of graduation.
6. If nongraduate, date of withdrawal.
7. Honors, grade, etc., for the course.
8. Scholarships, fellowships, prizes, loans.
9. Nonacademic honors—fraternity, clubs, athletics.
10. Class record.

Arrange studies in five columns, one for each year.

List studies in detail and show for each—

- (a) Number of each subject-course as per catalogue.
- (b) Hours per week.
- (c) Credit in college units.
- (d) Grade obtained.
- (e) A brief statement of major and minor group subjects on which course was based.

[Reverse side.]

Financial record.

Brief summary of ledger, showing amounts paid by student in course.

Special college records.

If desired, records of scholarships, prizes, etc., and nonacademic honors—fraternity, athletics, etc.—(collegiate records 8 and 9) may be given here in more detail and omitted from the front page.

Alumni record.

1. Address.
2. Occupation.
3. Married to (a) Date (b) Address
4. Children.
5. Honors.
6. Death—date, place, and place of burial.

In case of transfer to another institution an abstract of the permanent record form furnishes the information necessary for advanced standing. Printed abstracts are in common use, but need not be shown since in general the form is an exact duplicate of the permanent record form.

[FORM IIIa.]

RANDOLPH-MACON WOMAN'S COLLEGE.

[Loose leaf ledger page, 11 by 16½ inches; two sides used.]

STUDENT'S RECORD.

Name of student (in full).....		RECORD AFTER LEAVING COLLEGE.	
Address: P. O., .....State.....		Address: P. O., .....State.....	
Address changed to P. O., .....State.....		Address changed to P. O., .....State.....	
Date of birth.....Place of birth.....		Occupation.....	
Parent or guardian.....Profession.....		Married to.....	
Address: P. O., .....State.....		Date.....	
Church affiliation..... Member?.....		Address.....	
Date of enrollment.....; of withdrawal.....			
Prepared for college in.....		School, place.....	
Entrance requirements satisfied by—			

Subjects.	Certificate.	Examination.	Conditions.	Removed.	Signature of examiner.
English.....					
Mathematics.....					
History.....					
Latin.....					
Greek.....					
Modern language.....					
Science.....					

Admission to advanced standing.		Remarks.
Courses.	Credited by—	
.....
.....
.....

[Reverse.]

NAME OF STUDENT.....

[illegible]

GRADE EQUIVALENTS: Below 70, F; 70-75, P; 75-80, E; 80-85, D; 85-90, C; 90-95, B; 95-100, A.
[Schedule repeated three times, once for each year.]

[FORM IIIb.]

UNIVERSITY OF ROCHESTER.

[Loose leaf ledger page, 16 by 13½ inches.

NAME

Detailed statement of conditions.	Subject.	Re-sult.	Time for re-moving condition.	Name, occupation, and address of parent or guardian.				Institution last attended.	Time of entrance.	Method of entrance.				
				Date of birth.	Yearly average.		Course average.				Class.	Course.	Date of graduation.	Degree.
					I.	III.								
					II.	IV.								

ADMISSION.

Detailed statement of conditions.	Subject.	Re-sult.	Time for re-moving condition.	Subject.	Re-sult.	Time for re-moving condition.	Subject.	Re-sult.	Time for re-moving condition.				
										HISTORY: Ancient. English. Medieval and modern. American and civics.	German, first year. German, second year. German, third year. Greek grammar. Composition. Xenophon. Homer. Latin grammar. Composition. Caesar. Cicero. Virgil.	MATHMATICS: Algebra. Elementary. Intermediate. Advanced. Review. Geometry. Trigonometry.	SCIENCE: Botany. Chemistry. Physics. Physiology. Zoology.

[illegible]

Chemistry.....	Freshman courses in columns numbered 1, other courses in columns numbered 2.				Group scholar				Group scholar				Group scholar				Rating of the committee on admission.
	Courses for year. Courses total. Courses deficient.				Scholarship:				Scholarship:				Scholarship:				
Elementary.																	
Advanced.																	

THE UNIVERSITY OF CHICAGO

11-11-20

11.11.11

[illegible]

Study of individual.

600-118-1111

1000

At present, we are not aware of any other work on the topic of the effect of the type of the input on the output of the system.

1885-1886, 7, 10
 1886-1887, 10, 11, 12
 1887-1888, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
 1888-1889, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
 1889-1890, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

(1) Approved for
(2) Approved for
(3) Approved for

[illegible]

...

OTHER SUBJECTS.														Major Minor	
Latin.....															
French.....															
German.....															
Astronomy.....															
Total.....															
CONDITIONS.															
Botany.....															
Chemistry.....															
Geology.....															
Physics.....															
Zoology.....															
Bible.....															
Total.....															
Surplus credits.....															
Physical culture.....															
Requirement met.....															
Semester totals.....															
Totals.....															
Average.....															

[FORM III.]

DEPAUW UNIVERSITY.

[Card, one side, 7½ by 9½ inches.]

Name of student.....

Name of parent or guardian..... Address.....

ENTRANCE.	DEPARTMENT.	Year.	Term.	Course.	Hours.	Grade.	DEPARTMENT.	Year.	Term.	Course.	Hours.	Grade.
English composition.....												
English literature.....												
Latin grammar.....												
Latin, Cæsar.....												
Latin, Cicero.....												
Greek.....												
French.....												
German.....												
Algebra.....												
Geometry, plane.....												
Geometry, solid.....												
History, U. S.....												
History, general.....												
Electives.....												

[25 blank spaces for subjects of advanced grades.]

Graduated, 19...., with degree of.....

P represents a pass; P PLUS a creditable pass.

Registrar.

[FORM III.]

[Obverse.]

COLLEGE OF WOOSTER.

[Card, two sides, 7½ by 9½ inches.]

RECORD SHEET.

Name.....
Recommended by.....
Date of birth.....
Father's name.....
Guardian.....
Father's occupation.....
Church membership.....

Withdrawals—Reentrance.

Credits from elsewhere.

Special credits, substitutes, etc.

Prepared at.....

Date of entrance.....

Activities, experience, honors, etc.

Y. W. C. A. cabinet.....

Other such office.....

Literary society.....

Other club.....

Forensics.....

Athletics.....

Music.....

Class office.....

College publication.....

Teaching experience.....

Other responsible office.....

Self-help.....

Honors.....

Prizes.....

General remarks.....

[Reverse.]

Name..... Prepared at..... Degree sought.....

Entrance units.		College credits.	Freshman 19—19—		Sophomore 19—19—		College credits.	Junior 19— 19—		Senior 19— 19—		Totals.
			1st sem.	2d sem.	1st sem.	2d sem.		1st sem.	2d sem.	1st sem.	2d sem.	
English.....	3	Biblical in-	1	2B			Biblical in-					
French.....	2	struction.					struction.					
German.....		Biology.....					Biology.....					
Greek.....		Botany.....					Botany.....					
Latin.....	4	Chemistry.....	1	4C			Chemistry.....					
Mathematics.....		Education.....					Education.....					
Alg.....	1½	English litera-					English litera-					
Pl. G.....	1	ture.....					ture.....					
S. G.....	½	French.....	3	4D			French.....					
History.....		Geology.....					Geology.....					
English.....	1	German.....					German.....					
Ancient.....		Greek.....					Greek.....					
General.....		History.....					History.....					
Medieval.....		History of art.					History of art.					
Modern.....		Latin.....					Latin.....					
U. S.....		Mathematics.....	1	3A			Mathematics.....					
Civics.....	½	Oratory.....					Oratory.....					
Science.....		Philosophy.....					Philosophy.....					
Chem.....	1	Physics.....					Physics.....					
Phys.....		Political sci-					Political sci-					
Bot.....		ence.....					ence.....					
Zool.....		Rhetoric.....					Rhetoric.....					
Ph. G.....	½	Music.....					Music.....					
Physiology.....		Examination.....		3								
M. Dr.....		Physical edu-	1	1A			Physical edu-					
Agr.....		cation.....					cation.....					
Total.....	15	Total for se-		14			Total for se-					
Condition.....		mester.....					mester.....					
Made up.....		Complete total		17			Complete total					

IV. ALUMNI RECORDS.

Few institutions seem to attach much importance to their alumni records, yet the keeping of alumni records is becoming more important every year; a series of main topics has therefore been suggested. By placing these on the permanent record form, the complete history of each student is collected in compact form on one record; if, however, it should prove to be more convenient, the alumni record can be entered in a simple card index file; this latter method may be preferable when there is a special official, such as an alumni secretary, to handle the records. A postal inquiry addressed to the last available address of each alumnus will usually keep this record up to date.

RÉSUMÉ.

The forms outlined and discussed in this bulletin are, in the order of their appearance in the student's academic career:

1. The application blank.
2. The preparatory school certificate.
3. Registration forms—Student directory.

Class assignment.

4. Miscellaneous forms for daily record and care of students.
5. Permanent record form. This includes the information given in 2, 3, and 6.
6. Alumni record, included in 5.

It will be noted that the preceding forms are primarily for the regular undergraduate students, and that no provision has been made for special classes, such as graduate, irregular or special, short or winter term, and extension students. Undoubtedly an institution will find it advisable to use a special blank for one or more of these classes, but the variations from the standard forms will suggest themselves.

APPENDICES.

Appendix A.—Outline of systems used by Randolph-Macon Woman's College, Northwestern University, and Massachusetts Institute of Technology.

Appendix B.—Miscellaneous forms:

- (a) Remission of tuition fees, University of Cincinnati.
 - (b) and (c) Application for advanced standing, University of Michigan (2 forms).
 - (d) Change of registration, Earlham College.
 - (e) Matriculation card, Pennsylvania State College.
 - (f) Class report of examination to the registrar, Pennsylvania State College.
 - (g) Notice of low standing, Pennsylvania State College.
 - (h) Instructor's report card of changes in class enrollment (not attendance), Massachusetts Institute of Technology.
 - (i) Report of absence by instructor, University of Wooster.
 - (k) Notice of absence to instructor, University of Wooster.
 - (l) Class grade report, Kentucky State University.
 - (m) Class list, Kentucky State University.
 - (n) Report to preparatory schools of Kentucky of grades of admitted students.
 - (o) Class standing report, Allegheny College.
 - (p) Notice of failure, Allegheny College.
 - (q) Personal grade card, Massachusetts Institute of Technology.
 - (r) Notice of personal interview, University of Kansas.
 - (s) Application for graduation, DePauw University.
 - (t) Application for permission to carry extra hours, DePauw University.
-

APPENDIX A.—OUTLINE OF CERTAIN SYSTEMS.

Randolph-Macon Woman's College.

As soon as the application for admission is received, an endeavor is made to secure as full and detailed statement as possible of the credits offered for entrance (using the preparatory school certificate)—these being certified by the principal of the preparatory school. The registrar estimates the value of each unit, in every instance requiring at least the minimum of 13 units to be offered. At the opening of the fall term these certificates of preparation are submitted to the committee on matriculation, which is composed of the heads of the several departments and the principal instructors; this committee, in turn, interviews each applicant personally and separately, and the credit accorded her in each subject, whether by certificate or examination, is entered on the matriculation ticket (registration and class assignment blank) by the instructor in that department. The matriculation ticket and certificate are then returned to the registrar's office, and the credits so given are entered on the student's record, these three forms—the certificate of preparation, the matriculation ticket, and the student's record—being our official records.

Northwestern University—College of Liberal Arts.

Description of Printed Forms Used in the Registrar's Office.

Before the days of registration the prospective student is urged to forward the matriculation blank properly filled out on the first page, and the certificate of entrance credits made out and signed by the principal of the high school. He is also urged to read carefully the "Undergraduate's Manual."

On the day of registration the freshman goes first to the library, where he meets the president of the university and is given a time appointment with the dean of the college. These appointments are three minutes apart. If the matriculation blank has not been sent previous to the student's coming, he fills that out before meeting the dean. From the certificate which has been formerly submitted a transcript memorandum of entrance credit is written. On this memorandum the dean assigns an adviser-professor, to whom the student then goes. In company with the adviser the program of studies is arranged and recorded in duplicate. After this program is approved by a committee—to prevent entrance to a section already overcrowded, or enrollment for more than three recitations in a half day—it is then approved by the registrar and the bill is issued. In the registrar's office the program is copied on a registration card (different colors being used for different years) and a class card is made out for each course and sent to the proper instructor before the time of the first recitation. On the colored card the student's absences are recorded in the registrar's office. The registration is finally copied on the large card, which is the permanent record of a student's work.

The program of a sophomore, or upper-class man, differs from that above mentioned in that he takes from the registrar's office to his adviser a blank on which the registrar has indicated certain prescribed studies which ought to be included in the registration. The adviser has received from the registrar's office a record of the student's previous work. With the help of this record it is possible to encourage the registration for prescribed studies in their proper place.

Absences are reported by instructors to this office every week. When a student has recorded against him absences in a course amounting to one-eighth of the class exercises in that course he receives a warning. When his absences amount to more than one-eighth, but not more than one-sixth of the class exercises in the course, he is notified by the registrar's office that he is due for an additional examination, and if the absences exceed one-sixth he is notified that his registration in the course is canceled, and notice is also sent to his instructor. When a student's work is reported unsatisfactory, he is notified and asked to confer with his instructor at once. When a student wishes to change his program he secures from the registrar's office a blank, on which the changes are recorded and necessary signatures secured. The blank is then filed at the registrar's office and instructors are notified of courses dropped and of courses entered by receiving class cards. At the close of the semester instructors report grades to the registrar's office, and from the registrar's office the semester record of each student is sent to his parents or guardian.

Each student is required to designate the department which he chooses as his major at the beginning of his third year. At the close of the junior year a student expecting to graduate in the following year is required to file with the registrar a senior petition. A student registering from another department of the university brings to the registrar's office a recommendation from the department in which he has his primary registration. The record of a student transferring to another school is furnished on the certificate of standing.

Massachusetts Institute of Technology.

Each student fills out an *attendance card* according to the course he elects. *Roll cards* supplement the attendance card, and are kept in the registrar's office and used for a card catalogue for all courses. The *address card* is used at the information office for the address of students, and gives the tabular view of their exercises, which shows where they may be found during the school hours. The *bursar's card* is used by him.

The attendance card, which is a petition for each student for admission to the subjects he desires, is approved by the registrar, and then the roll cards are checked to agree with each card, by assistants. These roll cards are then separated into subjects (it is found convenient to use numbers to represent these), and then each subject is separated into its various sections, if the class in this subject is divided into sections. The rolls are written by hand, or by the typewriter on paper, and these rolls are corrected by the instructors, by use of the *roll correction card*; a new roll is issued every month.

Changes in the attendance card after the card is approved are made by the use of petitions to the faculty.

Records are returned by instructors on the alphabetical lists. The names of students entitled to records are underlined in red ink. There are formal and informal reports.

Informal reports are made for students in the first two years, at the end of the first five and first ten weeks of the two terms. Lists corresponding to these alphabetical lists are gummed and pasted into record books, that are ruled to agree with the spacing of the alphabetical lists, where these informal records are posted.

Formal records are returned on the same alphabetical lists, but these records are kept in a different way. The names of the students are separated into years, and for the three upper classes are again separated into courses. The choice of course is not made by first-year students until after the first term, and the courses do not differ enough in the second term to warrant the separation. The names of students are written, 30 on a page, at the left, and the subjects are written across the top. A copying ribbon is used on the typewriter, so that immediately before the faculty meeting to consider these records a copy can be made for the head of each department.

Reports are sent to students on a blank similar to the attendance card in form.

Various printed forms and notes are used in regard to the absence of students from exercises, and notices requesting them to consult various officers.

Entrance records are kept on cards, and students register for the entrance examinations on a special card, and gummed labels are attached to these cards as well as to all examination books. A different color is used for each candidate, such as preliminary, final, complete, and partial. The color of the label, together with the name on it, assists greatly with the rapid separation of the papers immediately after the examination, in the registrar's office. These are examined to correspond with the examination book, and it is customary to separate the books into groups, as preliminary, final, complete, and partial, and dividing each group, when necessary, into smaller groups, for examination. The records are returned on these written lists and are entered on the attendance cards. These are kept until the student enters the institute, and from these the entrance record is recorded on the permanent record of the student.

APPENDIX B.—MISCELLANEOUS FORMS.

[FORM Ba.]

University of Cincinnati.

Application for the Remission of Tuition Fees.

The undersigned, claiming that is a bona fide citizen of the city of Cincinnati, requests that be matriculated without payment of tuition.

1. Name of applicant in full.....
2. Date of birth day of, 18....
3. Place of birth. City, State, Country.....
4. Name of parents living.....
5. Residence of parents.....
6. Are your parents native-born or naturalized citizens?
7. When did you first come to Cincinnati?.....
8. What school or college, if any, have you attended since your removal to Cincinnati?.....
9. (a) When did you enter such school or college?.....
- (b) How long did you attend same?.....
- (c) If such school or college had been located elsewhere, would you have come to Cincinnati?.....
10. (a) Did you come to Cincinnati primarily to obtain an education?.....
- (b) If not, state fully the purposes for which you came to Cincinnati.....
11. When you removed to Cincinnati was it your intention to remain in Cincinnati permanently?
12. Had you any intention of ever returning to your former place of residence?
13. (a) Have you ever returned to your former place of residence since your removal to Cincinnati? If so, how often, and during what periods and for what purposes?.....
- (b) Where and how do you spend your vacations?
14. How long do you expect to remain in Cincinnati?
15. Do you expect ever to leave Cincinnati?
- If so, when and for what purpose?
16. Where do you expect to live after your graduation?
17. What profession or business do you intend to pursue or engage in after your graduation?.....
18. Do you or your parents own property in Cincinnati?
19. What is your source of support? Parents, friends, self, school fund. (Cross out all but actual source of support.)
20. Have you any employment in Cincinnati? If so, what?.....
21. Have you any employment elsewhere? If so, what?.....
22. Are you a voter?
23. Since your removal to Cincinnati have you ever voted elsewhere?.....
24. When and where have you voted in Cincinnati?
25. Where are you now registered?

State of Ohio, } ss:
Hamilton County, }

.....being duly sworn
says that he signed the foregoing application, and that the facts therein stated are true, as he verily believes.

Sworn to and subscribed before me this day of, 191....

.....
Notary Public, Hamilton County, Ohio.

[FORM Bb.]

University of Michigan.

Department of Literature, Science, and the Arts.

No.

M.
 may apply for advanced credit for work done at.

 in the subjects checked.

Registrar.

GREEK
 LATIN
 FRENCH.....
 SPANISH.....
 GERMAN.....
 ENGLISH.....
 RHETORIC.....
 ELOCUTION.....
 PEDAGOGY.....
 MATHEMATICS.....
 CHEMISTRY.....
 ANALYTICAL CHEMISTRY.....
 ZOOLOGY.....
 GEOLOGY.....
 DRAWING.....

This blank, when signed by the heads of the departments concerned, must be returned by the student Registrar before November 1.

FORM Bc.

University of Michigan.

Department of Literature, Science, and the Arts.

APPLICATION FOR ADVANCED STANDING.

(To be filled out by applicant.)

Name.....
 Address.....
 Studied at.....
 Length of attendance..... years
 Graduated..... 19.....
 Degree received.....

COMMITTEE'S RECORD.

(Not to be filled out by applicant.)

Application filed.....
 Adjusted.....
 Advanced credit given..... hours
 Required rhetoric.....
 Applicant notified.....

SPECIAL INSTRUCTIONS.

Please fill out this application for advanced standing, paying special attention to all details. Kindly insert on the second page of the application your preparatory work, stating the high school in which it was done, and have the principal of that high school render the statement official by affixing his signature. If more convenient, you may forward an entrance certificate, filled out and signed by the principal, direct to this office. The third page is for the work you have done of collegiate or normal grade. Be careful to specify not only the number of weeks, but the number of hours per week devoted to each study. This statement may be rendered official by having it signed by the registrar or president of the college where the work was done. This paper properly filled out and accompanied by a letter of honorable dismissal from will enable the committee to inform you immediately upon its receipt as to the number of hours of advanced credit which you may expect to receive should you decide to transfer to this department.

ADMISSION TO ADVANCED STANDING FROM OTHER COLLEGES AND UNIVERSITIES.

The following credentials are required: A. A letter of honorable dismissal from the college or university last attended. B. An official detailed statement of preparatory studies. C. An official detailed statement of college studies completed for which credit is desired. D. A marked catalogue of the college or university, showing each subject, including entrance.

This blank should be filled out with care and accuracy, and forwarded with the applicant's credentials, as early as possible, to the Registrar of the University of Michigan, Ann Arbor, Mich.

..... 19.....

To the Committee on Advanced Standing:

I, the undersigned, respectfully apply for admission in October, 19....., to the University of Michigan on credentials from College, and herewith submit the following answers in support of the application:

1. When did you enter the above institution?..... When did you leave?.....
 2. Did you offer for entrance any school certificate?..... If so, apply for a University of Michigan Certificate of Recommendation.
 3. Were you admitted without conditions?
 4. If not, what deficiencies?.....
 5. How did you make up these deficiencies?.....
 6. Were you credited toward graduation with any subjects at entrance?.....
 7. If so, what subjects and how much credit for each?.....
 8. How many full years have you attended regular instruction in the above institution?
 9. How many terms are there in each year?.....
 10. How many hours are required for the degrees, exclusive of drill and gymnasium?
 11. What portion of your course have you already completed? E. g. 58/120, 135/180, etc.....
 12. Can you continue in your institution, if you desire to do so?.....
 13. How many hours did you pass during your last term of attendance?.....
 14. Do you hold an Honorable Dismissal?..... Send it.
 15. Have you sent a catalogue of the institution, marking the exact subjects offered at entrance and those completed by you?..... If not, send one.
- Name in full.....
- Address.....
- Place and date of birth.....day.....month.....year.....
- Name and address of parent or guardian.....

PREPARATORY STUDIES.

The information given below refers to the work in the preparatory school and not to the work done in college, which should be listed on the opposite page.

Name..... Graduated from
Preparatory high school..... 191.....

Fifteen units are required for admission, a unit meaning the equivalent of five recitations a week in one branch of study for one year, amounting in the aggregate to not less than one hundred and twenty 60-minute hours in the clear. Two to three hours of laboratory, drawing, or shop work will be counted as equivalent to one of recitation. These fifteen units must include three units of English composition and literature, two units of a foreign language, one unit of algebra and one of geometry, and one unit of one of the sciences, physics, chemistry, botany, or zoology, and may include not more than three units from Group II. They must embrace two subjects of three units each from Group I. It is, however, strongly recommended that one or more studies be pursued throughout the four years of the high-school course. The subjects from which choice may be made, and the number of units which will be accepted in each subject, are as follows:

Group I.

Subject.	Hours per week.	No. of weeks.	Grade.	Subject.	Hours per week.	No. of weeks.	Grade.
English composition and literature, 3 or 4 units.....	Geometry, 1 or 1½ units.....	.....	.....	.....
Greek, 2 or 3 units.....	Trigonometry, ½ unit.....	.....	.....	.....
Latin, 2, 3, or 4 units.....	Physics, 1 unit.....	.....	.....	.....
French, 2, 3, or 4 units.....	Chemistry, 1 unit.....	.....	.....	.....
German, 2, 3, or 4 units.....	Botany, ½ or 1 unit.....	.....	.....	.....
Spanish, 2, 3, or 4 units.....	Zoology, ½ unit.....	.....	.....	.....
History, 1, 2, or 3 units.....	Geology, ½ unit.....	.....	.....	.....
Algebra, 1, 1½, or 2 units.....	Physiography, ½ or 1 unit.....	.....	.....	.....

Three units of science may be offered as a three-unit subject.

In order that a half unit in science may be accepted it must be supplemented by a second half unit in science. For this purpose the only groupings permitted are the following: (a) Botany and zoology; (b) Zoology (or botany) and physiology; (c) Physiography and geology; (d) Physiography and physiology.

Two units of mathematics and one unit of physics may be offered as a three-unit subject, in which case a second unit of science must be presented.

Group II.

Subject.	Hours per week.	No. of weeks.	Grade.	Subject.	Hours per week.	No. of weeks.	Grade.
Agriculture, 1 or 2 units.....	Manual training, 1 or 2 units.....	.....	.....	.....
Domestic science, 1 or 2 units.....	Commercial branches, 1 or 2 units.....	.....	.....	.....
Drawing, ½ or 1 unit.....				

The above is not designed to take the place of the required official statement. The preparatory school, however, may make the above statements official by signing the following statement:

I hereby certify to the accuracy of the above statement.

Principal of the..... High School.

.....191.....

APPENDICES.

COLLEGIATE STUDIES.

The information given below refers to the work completed in.....
.....College, as outlined in the catalogue for 19.... For preparatory studies
see preceding page.

[illegible]

(Name).....

The above is not designed to take the place of the required official statement, which each institution may make in such convenient form as it may prefer. The college, however, may make the above statements official by countersigning this page as follows:

I hereby certify to the correctness of the above statements.

(Position).....

.College.

(Do not forget the letter of honorable dismissal.)

FORM Bd.

Earlham College.

CHANGE OF REGISTRATION.

To the Registrar:

....., 191....

.....has permission to

Department.	Course No.	No. of hours.	Indorsement of instructor.
Cancel registration in following:			
Register in following:			

This permission should be deposited AT ONCE with the Registrar.

....., Pres.

FORM Bc.

The Pennsylvania State College.

Founded 1855.

MATRICULATION CARD.

M.....
 has been admitted as a student to The Pennsylvania State College and is entitled to all the rights and privileges thereto appertaining.

.....
Registrar.

Date.....

This card is to be kept permanently as a certificate of membership in the college.

FORM Bc.

The Pennsylvania State College.

REPORT TO REGISTRAR.

.....Semester, 191 -191 .

Date of examination....., 191 .

Subject (catalogue name and number).....

Credit hours per week (see catalogue).....

NUM- BER.	NAME.	GRADE PER CENT.	NUM- BER.	NAME.	GRADE PER CENT.
1	7	.....	.....
2	8	.....	.....
3	9	.....	.....
4	10	.....	.....
5	11	.....	.....
6	12	.....	.....

Date of report....., 191..... Signature.....

PLEASE OBSERVE CAREFULLY THE FOLLOWING DIRECTIONS.

Two reports must be made of every examination, the results of which are to go on record. The report to the registrar (184 Main Building) should contain the names of all the students enrolled in the class, arranged alphabetically with initials affixed. The class should then be divided according to the school or freshman division in which each student is enrolled, and a report of each group, with names arranged alphabetically and initials affixed, sent to its proper dean or freshman adviser.

Give each subject its catalogue name and number (e. g., math. 5). Use a separate sheet for each subject. Note the time and reason for any withdrawals from the class. If a student's dean or adviser has authorized the deferring of a grade in a given subject, note the fact and state the reason.

If a student fails in the examination, but has a combined term and examination grade of 60 or more, indicate this fact by giving him a grade of "D."

FORM Bg.

The Pennsylvania State College.

IMPORTANT.

To M.....

You are hereby notified that at the end of.....weeks you are reported as being below the required standing in

....., 191....

Dean. Adviser.

FORM Bb.

Massachusetts Institute of Technology.

ROLL REPORT.*

Subject: Year: Section:

BOSTON, 191....

The following students whose names are not on the Registrar's list ATTEND

The following students whose names are on the Registrar's list do NOT attend

Signature.....

* This should be used for reporting inaccuracies, not irregularity in attendance. It should be returned whether rolls are correct or not.

FORM Bc.

The University of Wooster,¹ Wooster, Ohio.

REPORT OF ABSENCE OR DELINQUENCY.

THE REGISTRAR.

The University of Wooster.

(Use a separate card for each name.)

Subject..... Course.....

(1) M..... was this day absent, making a total of absences.

(2) M..... was this day tardy or egressed, making a total of times not excused.

(3) M..... is neglecting h..... work

and is $\left\{ \begin{array}{l} \text{falling below previous standing} \\ \text{in danger of failing} \\ \text{certain to fail} \end{array} \right\}$ in this course.

(4) I have conferred with the student. A conference with the dean is suggested.

Date..... Instructor.

¹ Now called "The College of Wooster."

FORM Ba.

State University of Kentucky.

CLASS LIST.

Please return promptly to the registrar and without folding.

Instructor..... No. weeks.....

Subject taught..... Catalogue No.....

..... Hour of recitation.....
Days on which class recites.

Place names alphabetically.

Family name.	Given name.	College.	Family name.	Given name.	College.
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

FORM Ba.

State University of Kentucky.

Department of..... Instructor.....

Record of class..... Catalogue No.....

.... term of session 19..-19.. No. recitations per wk.. No. wks. in term.....

Credits units..... Text used..... Hour of recitation.....

Supplemental report should be made when "conditions" have been removed on cards furnished by the registrar. The cause of each student's failure or poor work should be indicated at the close of term under "Remarks."

(Place names alphabetically.)

	Family name.	Given name.					Term av.	Exam.	Report.	Remarks.
1										
2										
3										
4										
5										

FORM Bc.

Allegheny College.

Report of Class Standing of.....
for the term ending.....

Studies.	Grade.
.....
.....
.....
.....
.....
.....
.....
.....
.....

Registrar.

Daily standing is marked on the scale of 50.

Examinations are marked on the scale of 50.

The average of the daily standing and the examination is the term mark, or final grade.

The passing mark is 30.

All reports of students' work are made on the following scale:

A, indicating a grade of from 45 to 50; B, 40 to 44; C, 35 to 39; D, 30 to 34; E, 27 to 29—a "condition"; F, below 27, a failure.

FORM Bp.

Allegheny College.

Registrar's Office.

M.....

I regret to inform you that you have failed to secure a passing grade in

Subject.	Grade.
.....
.....
.....
.....
.....
.....
.....
.....

Please consult with the instructor concerning the matter.

Registrar.

All reports of students' work are made on the following scale:

A, indicating grade of from 45 to 50; B, 40 to 44; C, 35 to 39; D, 30 to 34; E, 27 to 29—a "condition"; F, below 27, a failure.

A student marked as "failed" in a subject is entitled to a second examination, if he so desire, at a time to be arranged by the instructor. In case of a second failure, or of neglect to apply for a second examination within two weeks of the opening of the next term, the study must be taken over in class.

A student marked as "conditioned" in a subject may have a second examination as explained above, or he may, at the discretion of the instructor, continue the subject, and if he secures an average mark for the two terms of 30 or more, the condition of the first term will be removed.

A student who has been conditioned in a subject must remove such condition before the subject is given again, or repeat the work in class with no credit for his previous work in the subject.

APPENDICES.

FORM B₄.

Massachusetts Agricultural College.

Use this blank for *second* semester only.

Date, June.....191....

To the Registrar:

Mr. **Class**.....

Receives a mark of.....

Course in.....{Catalog
No. of Course}.....

NO. OF CREDITS OF COURSE.....

Sig. Instructor.....

wh Mark withheld.

Conditioned.

FORM Br.

University of Kansas.

Office of Registrar.

M.....

Please report at Registrar's office to-day or to-morrow during the regular office hours, 8-12 or 2-5.

Purpose.....

Bring this notice with you.

Registrar.

.....19.....

(FORM Bc.)

DePauw University.

Application Blank for Graduation.

GREENCASTLE, IND., , 191..

I,, desire to become a candidate for the degree of.....at the commencement of June, 191..

I have.....hours to my credit and am now taking.....hours.

My major is.....

My required language is.....

My required science is.....

(Signed).....

Ago.....

Intended occupation.....

Home address.....

[FORM B.]

DePauw University.

APPLICATION FOR PERMISSION TO CARRY EXTRA HOURS.

....., 191..

Name.....
 First name. Middle name. Last name.

Greencastle address.....
 Number. Street.

How many semesters have you already spent at DePauw?.....

For what courses have you just registered?
 Department. Course. Hours.

.....

What extra work do you desire?.....
 Department. Course. Hours.

What work will you have in addition to the above courses? (Specify work in music,
 or art, participation in college activities, work done for self-support, etc.).....

What are your reasons for desiring extra work?.....



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 34

SERVICE INSTRUCTION
OF
AMERICAN CORPORATIONS

BY

LEONHARD FELIX FULD
ASSISTANT CHIEF EXAMINER
MUNICIPAL CIVIL SERVICE COMMISSION
NEW YORK



WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

**ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
15 CENTS PER COPY**



CONTENTS.

SERVICE INSTRUCTION OF DEPARTMENT STORES :	Page.
I. Introduction	5
II. Physical education	6
III. Vocational training.....	11
IV. Continuation instruction	24
V. Conclusion	26
VI. Appendix	28
SERVICE INSTRUCTION OF TELEPHONE COMPANIES :	
I. The operator.....	31
II. Operators' school.....	34
III. Plant employees.....	38
TYPICAL SERVICE INSTRUCTION IN OTHER INDUSTRIES :	
I. General Electric Co., Schenectady, N. Y.....	42
II. The Lakeside Press, Chicago, Ill.....	51
III. Metropolitan Life Insurance Co.....	54
IV. D. E. Sicher & Co., New York.....	56
SERVICE INSTRUCTION OF THE CITY OF NEW YORK :	
Police service instruction.....	59
Service instruction of fire department.....	62
Service instruction of street-cleaning department.....	64
Service instruction for clerical employees.....	67
Service instruction in physical education.....	70

ILLUSTRATIONS.

Plate 1. A, Employees' recitation room, John Wanamaker, Philadelphia ;	Page.
<i>B, Employees' lunch room.....</i>	<i>16</i>
2. <i>A, Employees' bugle corps ; B, Employees' gymnasium.....</i>	<i>16</i>
3. <i>A, Examining an applicant, New York Telephone Co. ; B, School</i>	
<i>of instruction for operators.....</i>	<i>32</i>
4. <i>A, Rest room for operators ; B, Lunch room for operators.....</i>	<i>32</i>

SERVICE INSTRUCTION OF AMERICAN CORPORATIONS

SERVICE INSTRUCTION OF DEPARTMENT STORES

I. INTRODUCTION.

Importance of salesforce.—Although department stores exist for the purpose of selling goods and obtaining an increasing patronage from a satisfied public, most department stores have left the salesforce, which is the point of contact with the public, with a low wage scale, uneducated, unstandardized, and recruited by haphazard methods of selection. The first attempts to raise the standards of the department-store salesforces were made by welfare workers, who sought to better the condition of the girls by means of superficial educational activities and other philanthropic methods that are likely to be unjust to the self-respecting spirit of the girls.

Saleswomen.—The salesforce of most department stores is composed principally of women, who are better suited to this work than men, because they learn more quickly, work for a lower wage, and are more willing to obey instructions that they do not understand. On the other hand, they have a lower physical efficiency, and being contented with monotonous tasks, lack the ambition for advancement which generally increases the business efficiency of men. Marriage does not seriously affect this problem, since saleswomen generally have a working life of about 10 years, from the age of 16 to the age of 26.¹ Furthermore, as the result of death or misfortune, many saleswomen return to work after marriage and follow salesmanship as a life occupation.

Team spirit.—The lack of team spirit which is generally found among women workers is accentuated in the case of saleswomen, since a lack of intelligent cooperation separates each department and each member of each department from all others. Saleswomen have practically no opportunity of coming into friendly intimacy with their fellow workers, since they are isolated by the constant presence of customers. Furthermore, they generally have no sense of relation or obligation to their employer other than that of "making a large book," i. e., selling a large quantity of goods. The team spirit of

¹ Beulah E. Kennard. (See p. 30.)

saleswomen may be developed by means of physical exercises in a gymnasium, and the social spirit may be similarly cultivated by means of music and organized games.

II. PHYSICAL EDUCATION.

Physical examinations.—Although the health of employees is one of the most important factors in efficiency, comparatively little attention has been given to this subject until recently. For the promotion of commercial hygiene and efficiency, applicants for employment should be given a thorough physical examination, including an inquiry into their previous clinical history; an examination of heart, lungs, back, and feet; an inquiry into their habits with reference to sleep, exercise, diet, and bathing; and a few important measurements. This physical examination should be repeated at periodic intervals, with a view to conserving and improving the health of the employees.

The following forms give an idea of the manner in which two firms have met the situation:

JOHN WANAMAKER.

J. W. C. I. PHYSICAL DEVELOPMENT.			
Name.....		Section.....	Age.....
Examination.	Date.	Date.	Date.
1. Height.....
2. Weight.....
3. Chest.....
4. Teeth.....
5. Eyes.....
6. Hearing.....
7. Nose and throat.....
8. Digestion.....
9. Posture.....
10. Scalp.....
11. Feet.....
12. Spine.....
13. Skin.....
14. General condition.....

LORD & TAYLOR.

HEALTH DIVISION—EDUCATION DEPARTMENT.

Nationality..... Name.....
 Date..... Address.....
 Age.....

CLINICAL HISTORY.

Past History (general): Measles.....; scarlet.....; rheumatism.....
; other conditions.....; operations.....; pneumonia.....
; diphtheria.....; chorea.....; skin eruptions.....;
 typhoid.....; enlarged glands.....

Present history (general): Backaches_____; cough_____; colds
 _____; headache_____; indigestion_____; constipation
 _____; over-fatigue_____; other conditions_____.

Special conditions: Eyes_____; ears_____; nose and throat_____;
 orthopedic_____; menstruation—Age at start_____; interval
 _____, duration_____, flow_____, pain_____, reflex,
 headaches_____, nausea_____, lame breasts_____, other
 symptoms_____; made worse by_____; made better by_____;
 leucorrhea_____.

Habits of living: Sleep_____; exercise_____; diet_____; cold
 bath_____.

LORD & TAYLOR.

HEALTH DIVISION—EDUCATION DEPARTMENT.

Name_____; Date_____.

EXAMINATION—MEDICAL AND PHYSICAL.

General: Nutrition_____; complexion_____; muscle tone_____;
 mucous membranes_____; tongue_____; teeth_____; tonsils
 _____; throat_____; eyes_____; pupils_____; thyroid
 gland_____; lymph nodes_____; pulse, before exercise_____
 after exercise_____; hands_____; tremor_____; knee-jerk
 _____.

Orthopedic: Back—deviation_____, rotation_____, flexibility_____,
 correction_____, physiological curves_____; shoulders—higher
 _____, forward_____; hips—higher_____.

Chest: Heart—inspection_____, palpation_____, percussion_____,
 auscultation_____; lungs—inspection_____, palpation_____,
 percussion_____, auscultation_____.

Abdomen: Tenderness_____; visceroptosis_____; intercostal angle
 _____.

Feet: (Right_____, left_____): Pronated_____; tenderness
 _____; flexibility_____; callouses_____; arches—longitudi-
 nal_____, transverse_____.

Measurements: Height_____; weight_____; vital capacity_____;
 girths—chest (9th rib) contracted_____; expanded_____; strength
 of chest_____; back_____; legs_____.

Health of saleswomen.—The importance of periodic physical ex-
 aminations as an aid in promoting the efficiency of the sales force
 of a department store has been clearly demonstrated by the findings
 of a recent examination of 75 saleswomen in New York,¹ of whom

¹ Kristine Mann.

78 per cent suffered from scoliosis, 63 per cent from exaggerated curves of the back, 58 per cent from indigestion, 54 per cent from moderately bad backs; 37 per cent from thoroughly bad backs, 28 per cent from leucorrhea, 21 per cent from pronated feet, 18 per cent from heart weakness, 18 per cent from severe pain at menstruation, and 8 per cent from painless flat foot. Although the average age of these 75 young women was only 26 years, but 8 per cent had good backs and but 12 per cent were in good physical condition.

Weakness of back.—The fact that a large majority of saleswomen appear to be suffering from weakness of the back is of great importance to anyone who seeks to increase the efficiency of the sales force. This condition has a marked effect upon the alertness and activity of the mind, as well as of the body. It is a common observation that toward the close of the day the saleswomen are not physically able to give good service, and anything that will improve the physical condition of these women will add to their selling ability. Eye trouble, swollen tonsils, decayed teeth, and actual illness should receive proper medical attention. Personal advice should be given to those who require it, on the subjects of diet, bathing, and dress. For weakness of the back and postural defects, suitable gymnastic exercises should be prescribed.

The following are typical exercises that will be helpful:

CORRECTIVE EXERCISES—TO BE PRACTICED AS PRESCRIBED.

First—To Correct Flat Chest:

Stand at attention. Inhale through nose deeply as possible, throwing the chest out and holding abdomen in. Hold while counting ten. Exhale slowly. To be done six times. Practice three times a day.

Second—To Correct Weak Back:

Stand at attention. Raise arms above head. Bend forward, lowering arms until tips of fingers touch the floor, without bending knees. To be done four times. Practice three times a day.

Third—To Correct Weak Arms:

With half-pound weights, practice arm and forearm movements of setting-up drill. Practice three times a day.

Fourth—To Correct Weak Abdomen:

Lie at full length on the floor. Without bending knees, bring feet up to a right angle above body. Do not assist with hands. Practice ten times, twice a day.

Selection of employees.—Every applicant for employment should have a thorough physical examination. The searching questions of the medical examiner with reference to the applicant's personal history will disclose her physical fitness for indoor work and her freedom from diseases likely to be communicated. Applicants suffering from minor local ailments should be advised to seek treatment and

to renew their application when cured. Those suffering from epilepsy, leaking hearts, or incipient tuberculosis should be rejected. The general type of the applicant should also be considered. A girl with a nervous inheritance, a history of chorea, a case of chlorosis, a slight lateral curvature, retarded development, or a history of frequent acute respiratory conditions should be discouraged from seeking employment in a department store.

Dental care.—The teeth of every applicant for employment and of every employee should be examined. Instruction in the use of the toothbrush and advice concerning the importance of the early treatment of decayed teeth should be given to all by lectures or by means of printed bulletins. Heads of departments should be required to report employees whose mouths require attention in order that negligence, fear of pain, or lack of money may not result in serious neglect of teeth, gums, or mouth.

Care of feet.—The care of the feet is a matter of special importance in the case of saleswomen, who are obliged to stand all day. Corns, bunions, and callosities should receive proper treatment from a chiropodist, and cases of weak or broken arches or flat foot should receive the attention of a competent orthopedic surgeon. The proper care of the feet and the wearing of proper footwear should be taught by means of lectures and by means of bulletins, since neglect results in painful conditions, interference with walking and standing, and nervous and constitutional symptoms that are detrimental to efficiency.

Rest rooms.—The fact that saleswomen are obliged to be on their feet most of the time results in many cases of dysmenorrhea. These cases may be relieved by nurses in rest rooms provided for this purpose. Rest in bed, a hot-water bag, and complete relaxation with clothing well loosened will enable the saleswoman to return to her duties entirely refreshed in a short time. Although cases presenting symptoms of pain, nausea, and headache may be treated by nurses in rest rooms in this manner, those presenting symptoms of nervousness, weakness, and prostration require the skilled care of a physician, as do saleswomen suffering from uterine, ovarian, and tubal disorders.

Instruction in personal hygiene.—Instruction in personal hygiene may be given to the saleswomen by means of lectures or by means of bulletins. The saleswomen should be made familiar with the processes of digestion and elimination; the physiology of the digestive, respiratory, circulatory, and nervous systems; the importance of regularity of eating and a proper diet; the care of the eyes, teeth, nose, throat, and feet; sleep, exercise, and ventilation; and the prevention and cure of colds. Personal appearance, suitable dress for business women, perspiration, bathing, constipation, and the care of the hands and the hair should receive special emphasis. This instruc-

tion in hygiene may be supplemented by lectures delivered under the auspices of the local society for the prevention of tuberculosis and the local social hygiene society. The following illustrates what is done:

EDUCATIONAL BULLETIN No. 24—AMERICAN UNIVERSITY OF TRADE AND APPLIED COMMERCE.¹

For Summer Comfort:

Good Digestion. Plenty of Sleep. Free Use of Cool Water inside and out.

Wear sensible and loose clothing, making as many complete changes as possible.

A large part of discomfort in hot weather is due to disordered stomach and digestion. Coated tongue, loss of appetite, constipation, sour eructations, drowsiness and dullness after meals are all indications of this. This condition affects our energy and spirits and makes the weather seem hotter than it really is.

Eat seasonably, taking ripe fruits, green vegetables, cereals, eggs, salads, light desserts, and meat in moderation. Do not flood the stomach with large quantities of cold drinks with the meals.

Butter, gravies, fats, oils, coffee, pastry, fried foods, hot breads, and much meat are heat-producing foods. Avoid crab meat (except at the seashore), cucumbers, unripe fruits, and bad combinations, such as potato salad with ice cream, or sour things and acids with milk. Loading the stomach just before sleeping is a cause of many upsets. If hungry, eat something light, such as crackers and milk, or ripe fruit, rather than ice cream, soda water, etc.

Drink all the cool water you wish between meals, preferably in small quantities at a time.

On very hot days a sponge or shower or a quick tub bath taken twice a day is not too much. Keep the pores ever active and free, and you will have a feeling of well-being and enjoy the summer more than you ever have before.

Evenings, Saturdays, and Sundays be out of doors every minute that you can. Get your feet on the ground and be outdoor people as these opportunities now permit.

Be a little more deliberate on the hot days, and let moderation and common sense prevent those nerve wreckers, "hurry" and "worry," from making life miserable. Be content to save a little of to-day's energy both in work and play for to-morrow.

CHARLES B. WORDEN, M. D.,
Medical Director.

June 15, 1914.

Recreative facilities.—The physical welfare and moral safety of the saleswomen may be protected by making suitable and adequate provisions for recreation. On a roof garden sheltered by an awning and having swings, rustic benches, potted plants, flowers, and electric light the girls may rest or play games during the lunch hour and dance in the evenings in summer.² In a spacious, sunny recreation hall equipped with chairs, pictures, a phonograph, and a piano the

¹ John Wanamaker.

² M. V. Greene.

girls may enjoy dancing or a musical program during the lunch hour. Dancing clubs may serve as a means of teaching dancing to the younger women under conditions in which correct decorum and dignity are maintained, and at stated intervals informal dances may be given, to which the members of the dancing clubs may be permitted to bring outside friends. The organization of bands and bugle corps will also be found to be advantageous.

III. VOCATIONAL TRAINING.

Buyers' conferences.—The simplest form of instruction in salesmanship is that afforded by buyers' conferences. In the organization of a department store the buyer of a department is its principal officer. The efficiency of the sales force may be greatly increased by holding weekly conferences of the sales force, at which the buyers give lectures and suggest solutions to the problems in salesmanship submitted by the saleswomen. Such subjects as "care of stock," "labeled goods," "suggestive selling," "old goods," and "returned goods" may be discussed at these conferences. These lectures should be carefully reviewed at subsequent conferences. Written tests on them may be given, and their educational value may be further increased by furnishing to each sales person a bulletin on the subject of the lecture for permanent preservation and reference.

The following selections are types of some of the lectures mentioned above, together with representative tests held after the lectures:

Lord & Taylor.

Education Department.

BULLETIN.

CARE OF STOCK.

The lectures given by Mrs. ——— were given careful attention and aroused a new interest in the careful handling of stock. Her main points were:

1. *Importance* of handling the stock with care, because a very small damage done by each of 40 or 50 girls would soon make the hat or other article look shopworn.

2. *Putting the stock back* where others can find it and not allowing it to remain out of the case after it has been shown.

3. *Soiled* or mussed stock must be reduced in price and causes loss to the department.

4. *Cooperation* in the department. Putting away stock for a busy saleswoman is cooperation in the department, as well as general care of our own and other people's stock.

Cooperation with the buyer: Giving proper attention to all the goods and not selling the newest things in preference to goods that were in the department previously.

Cooperation with the store: Being courteous about returned goods by care in selection and asking the customer, "Are you satisfied?"

The answers given by the three classes to a series of questions on care of stock showed that some had given the matter careful thought and some had not. Very few remembered the lecturer's point about the large numbers handling stock. All realized that soiled or mussed stock must be reduced in price. A number did not give any answers as to how they could cooperate. Some do not seem to understand what cooperation means. The best answers on these points were:

System is the main thing.
 Being courteous to people whether they buy or not.
 Handling goods as if they were personal property.
 Putting away stock for another girl if she is busy.
 Being on the alert to help others.
 People can do more by working together.
 Showing new girls.

August 18, 1914.

TEST ON THE CARE OF STOCK.

1. Why does carelessness in handling stock cause so much loss in a large department?
2. What must be done with shopworn goods?
3. Why should you sell old goods first? Two reasons.
4. Advantages of cooperation to department?
5. In what ways can you cooperate in your department?
6. What goods in your department are most easily injured and need most careful handling?
7. Suggest some improvement in your department which you think would help to keep your stock in better condition or make it easier to get.
8. What are the points which the head of your department makes most important in handling your stock?

Lord & Taylor.

Education Department.

BULLETIN.

"OLD GOODS."

Mr. ——— began with a proverb—

"Collecting old goods is collecting trouble."

His principal points were the following:

Stock.

1. Many kinds of stock are destroyed by time, even if they are not handled. Among these are rubber goods of all kinds, and spool silk, which rots on account of the dye.

2. All stock is injured by dust and handling, as, for example, side combs, which are scratched by being rubbed against each other.

Buyer.

1. Old goods cause a department to have too much of one kind of stock, because a buyer is allowed only a certain amount of money, and if he has old stock left over in one line he has not enough money to buy even necessary things in another line.

2. A buyer wants to move stock quickly, because his business is to buy, and he wants to turn his money over often in order to make larger profits.

Customer.

1. A customer always likes to see new goods.
2. It is harder to convince a customer that the old goods are "just as good" or that they will suit her as well as the new.
3. A customer is more likely to return old goods when she examines them and finds them shopworn or out of style.

Sales person.

1. It takes twice as long to sell old goods as new, because old goods must be "talked up."
2. The sales person is more interested in new goods. That makes selling much easier and more successful.

Tests on this lecture.

1. Only three or four spoke of the loss of profit by keeping old stock. Some seemed to think it was good to have new stock just because it looks new and fresh.
2. Illustrations were given of French Ivory which turns darker with age, perfumes which change color, white hats which grow yellow, feathers which gather moths, tinsel which becomes tarnished, kid gloves which become harder, and velvet which becomes marked by being kept in stock.

August 31, 1914.

TEST ON OLD GOODS.

1. How does stock lose in value by remaining too long in the department?
2. Why does a buyer wish to move stock quickly?
3. How do old goods cause a department to have too much of one thing?
4. Why is a customer more likely to return old goods than new?
5. Condition of notion department at the beginning of the war.
6. Why does it take more time to sell old goods than new?
7. What difference does your own interest make in the amount of goods you sell?

Lord & Taylor.

Education Department.

BULLETIN.**"LABELED GOODS."**

All large department stores carry two kinds of labeled or branded goods, those bearing the name or label of a manufacturer and those bearing the name or label of the store.

Store control.

The most important advantage gained by selling goods with the store label is that the buyer (or store) can control the cost of manufacture, advertising, and selling price, and can not be forced to meet unreasonable demands on the part of the manufacturer.

Mr. — gave two convincing illustrations of being in the power of an outside manufacturer. In one case an article which the store had carried for 32 years and had widely advertised was taken away because the store refused to buy the amount of goods demanded.

In another case prices were cut in outside towns, reducing the value of the store's stock.

Buyer.

There is more profit in goods bearing the store label—

1. Because the manufacturer charges the retailer for his name.

2. Because the manufacturer includes the cost of his own advertising in the price to the retailer.

Labeled goods are an advantage to a small store, but large and well-established stores need no outside guaranty for the goods they sell.

Sales person.

Goods sold under the store label are more likely to make permanent customers, as they can be bought in no other store.

Customer.

Complaints made of goods sold under the store label can be adjusted in the store without delay. Other labeled goods must be referred to the manufacturer.

September 24, 1914.

Efficiency bulletins.—The educational value of these buyers' conferences may be increased by issuing efficiency bulletins to the sales force at regular intervals on a subject related to salesmanship or store system. These efficiency bulletins are made the basis of the conferences, and reports of the conferences are sent to the educational director of the store. Examples of these efficiency bulletins are given below.

A CREED FOR THE SALESMEN AND WOMEN OF THE WANAMAKER STORE, NEW YORK.

I believe in the Golden Rule, "Do unto others as you would have them do unto you."

I believe it should govern our conduct between business associates as well as among friends.

I believe that its daily application and observance would make all other rules and regulations unnecessary for me.

Because I would begin the day by being punctual—would waste no time—be cheerful and alert—scrupulously clean in person and mind—willing to give a full measure of time, effort, and attention as my part of the day's product.

Because I would read our advertisements and remember what I read; then tell my customers, and by tactful suggestion, sympathetic interest, and correct service secure their confidence in our merchandise and store.

Because I would consider selling my primary purpose and first duty and hold all other tasks as secondary.

Because I would not allow my stock work to subtract from my attention to customers, but would be ready and willing to serve the public promptly, regardless of other duties.

Because I would know my stock thoroughly and keep it in perfect order and as complete as possible—would always report stock shortage, and conscientiously strive to secure what was asked for, maintaining a follow-up record to insure my customers against disappointment.

Because I would remember the importance of attention to the details of completing and recording a sale, and insure against disappointment and complaint by securing the correct name, complete address, and shipping instructions, and confirming these by repeating them carefully and audibly; by legible writing and figures, always in the correct place; by shunning abbreviations; by making no rash promises, and by referring all requests for special deliveries to the floor manager; by being fully informed concerning our wagon-delivery schedule; by being very careful in directing customers, always securing the correct information when in doubt; by announcing the amount of cash received and counting the amount of change returned in a manner to guard against errors or subsequent disputes.

Because I would look upon all visitors as guests and customers, serving them with cheerful attention; always remembering that they may be heavy purchasers in other sections of the business, although my particular merchandise may not interest them at the time.

Because I would guard against misrepresentation or misleading statements, would be truthful in my recommendations, and hold the customer's interest jointly sacred with the interests of the business.

Because I would always welcome my friends and encourage them to patronize the store, but courteously explain to those who tarried to visit that my time was so occupied that they must excuse me.

Because I would cheerfully serve customers returning goods for exchange or credit, and strive to offset their disappointment by refraining from any discussion of the merits of the merchandise returned, preferring to interest them in something else rather than to attempt to convince them of the error of their judgment in a matter of which they evidently have a fixed opinion, and I would be qualified to do this by knowing my merchandise thoroughly, fabrics, texture, suitability, and probable service.

Because I would welcome the call to assist in other and busier departments than my own, and profit by the opportunity to broaden my knowledge of merchandise and service instead of considering my prestige tarnished by the temporary transfer.

Because I would let it be known that disloyalty or dishonesty would not be passively countenanced by me; that the onus of such would not be shared by me through failure to report it.

Because I would not let trifles or petty jealousies sour my temper or distort my vision of the realities of life, always remembering that strong, well-poised minds refuse them recognition, while weak natures endow them with superlative importance.

Because I would always speak well of the store, holding loyalty on a par with honesty; recognizing that my progress is of my own making. I would hitch my wagon to the star of persistent, patient industry, always busy, cheerfully busy, but never too busy to be considerate of my fellow employees, deserving their good-will by tactful conduct and square dealing—by assisting and encouraging the beginners, helping them to see the importance of the details of system and understand the need and purpose of store regulations and restrictions.

Because I would discourage pernicious gossip, thoughtless criticism of the store management, organization or merchandise, and idle and unkind speculation about my store associates; by defending the absent and spurning the scandal monger; by advocating good-fellowship, and a unity of purpose to be free from worry and the taint of discontent.

All of which can be summed up in the first profession of belief of this creed:

"Do unto others as you would have them do unto you."

EDUCATIONAL BULLETIN No. 21—AMERICAN UNIVERSITY OF TRADE AND APPLIED COMMERCE.

The Post of Duty—

For Service and Guardianship:

The "School of the salesman" puts necessary emphasis upon the *Post of duty* of the salesman; upon the salesman's *being at his post* as much of the time as possible; upon his being *constantly observant* there.

53934°—17—2

What are some of the reasons?

1. *My "post" is my shop.*—To the extent I am away, or so absorbed that I do not take business advantage of a customer's approach, to that extent *my shop is closed* and my public service and my individual business lose.

2. *Business courtesy and dignity.*—Due regard for appearances and right respect toward the guest and the customer require this attitude of "*attention*" in body and mind.

3. *Selling efficiency.*—A customer stops casually to examine merchandise. Several of us sales people are grouped at a distance. Separated and at our posts, one of us would have been near this customer. But, as it is, an opportunity may be lost. If the salesman thinks customer is simply looking (and the store cordially extends that courtesy, without solicitation to buy) and so keeps his distance, he risks giving the impression that we are indifferent to one who really wants attention. If he steps toward the customer, he risks causing one who may be "simply looking" to feel that, not meaning to buy, she must pass on. It is a fact that we have many complaints of "indifference" and of "oversolicitation" which arise in this way.

Sales forces well scattered and alert have best opportunity to speak of and show their merchandise to the casual customer without risk of wrong impression; and many sales are made, either at the time or later, as a result of the salesman's being thus at hand and able to enter naturally into conversation with the casual looker.

4. *Guardianship of property.*—The selling forces are the guardians of the property committed to their care. The stocks are divided and every part is under some-one's care. So long as human weakness creates temptation to take things which are not our own, just so long this guardianship of the property must remain a serious duty of the salesman. Grouping, allowing the attention to become absorbed too completely in business or in nonbusiness matters, hastening off to observe some celebrity, the fire engines, a parade, or other cause of excitement give opportunity and create temptation. The following are distinct points of duty for the salesman, arising from the sad fact that all are not at all times under control of their own best selves.

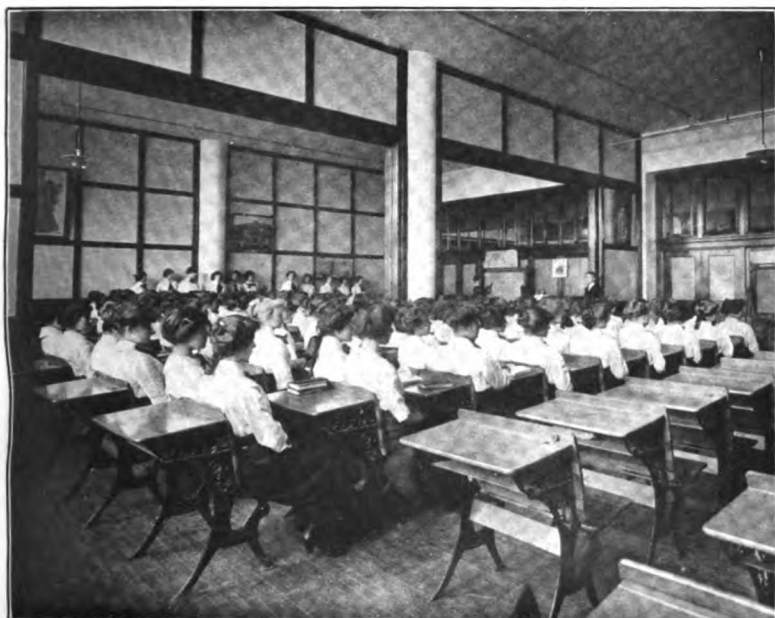
(a) To be *at the post and be observant*, so that if some one with wrong purpose looks to see whether anyone is watching he *will see that some one is watching*.

(b) When anyone is seen to act suspiciously, or when for any reason the salesman's suspicions are aroused, to *send quietly for one in authority or for a special officer*, meanwhile continuing to be observant; but *not speak to the suspected one or do anything which could be construed as an accusation or suggestion of arrest*. When the special officer appears and takes the case in hand, to *cease observation and withdraw absolutely from the case*. To do all this with *as little notice as possible*.

(c) If goods are missed from the stocks, to *report the fact promptly to the department chief and to the superintendent's office*.

Manifestly, the selling forces can not keep account of stock—of what is sold and what should remain at the close of the day. *But the subconscious faculties come to the aid of the thoughtful and observant*. Those who endeavor to fulfill such a duty conscientiously will intuitively feel and note the fact when what has been committed to their care is imperiled or has improperly disappeared. *The earnest desire and will to safeguard one's charge is the first essential to becoming a good "guardian."*

March, 1914.



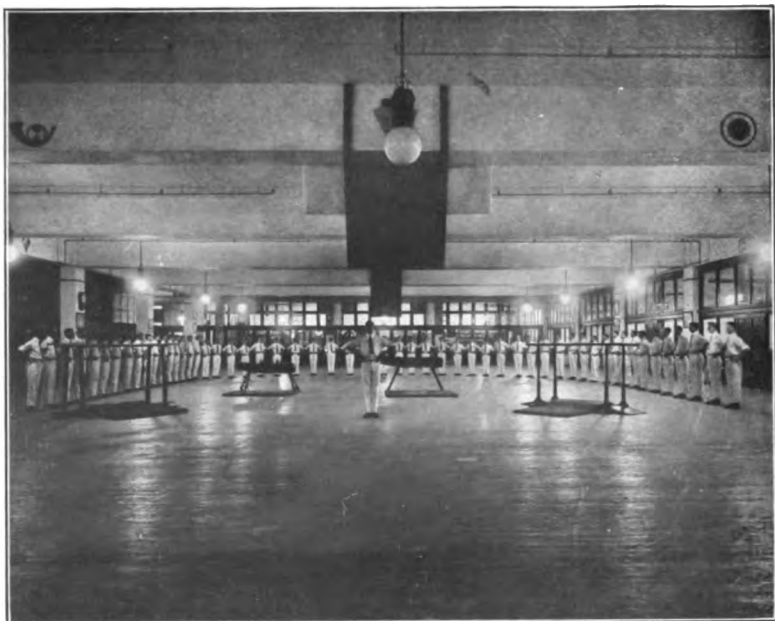
A. EMPLOYEES' RECITATION ROOM, JOHN WANAMAKER, PHILADELPHIA.



B. EMPLOYEES' LUNCH ROOM.



A. EMPLOYEES' BUGLE CORPS, JOHN WANAMAKER, PHILADELPHIA.



B. EMPLOYEES' GYMNASIUM.

No. 197.

EFFICIENCY BULLETIN.¹

January 18, 1915.

FRIENDS SHOPPING TOGETHER.

(For the use of floor superintendents.)

(During the dull season we shall again have time to study some of the interesting questions of salesmanship. One of the points that we have not taken up as a body is that of two friends shopping together. The two incidents given below, or others that you will probably have in mind, may serve as illustrations of the way in which two customers can in an indirect way be a real help to the salesperson in getting clues to what a customer wants. The list of questions at the end you may find suggestive for getting your people to analyze the illustrations given.)

I. Two customers were talking as they entered the costume department.

First customer: "I must have a silk dress that I shall be able to wear to school later. I can't afford to pay laundry bills for wash dresses."

Second customer: "I suggest navy blue."

Salesperson (approaching): "Something in navy blue for school?" She shows a navy blue crêpe de chine dress, pointing out that it is practical and not too dressy, but is brightened up by the white collar and vest. This dress was exactly what the customer wanted, and she took it at once.

II. Two customers stood directly in front of a salesperson for some time looking at bottles of German cologne and talking about them. When the salesperson finally spoke, she said: "Can I help you?"

Customer (to salesperson): "I should like something new in toilet water or cologne." (To friend:) "I like good toilet articles and am truly extravagant in buying them."

Salesperson: "Here's a good cologne—60 cents; larger size, 90 cents."

Customer: "What have you in violet?"

Salesperson silently brought two bottles, one at \$1.75 and the other at \$2.25.

Customer: "I wish I could smell these."

Salesperson: "They are not open."

Customer: "I don't like to put \$2.25 into something I might not like, so I'll wait."

Salesperson puts away bottles.

Customer (to friend): "I wonder if this powder is good? I have to be careful, for it often irritates my skin."

(No response from salesperson.)

Customer (to friend): "Aren't these bottles of smelling salts attractive? I have always liked them."

(No response from salesperson.)

Customers left without purchasing.

Suggestive questions for the discussion.

I. What clues were given in the first sale?

How did the salesperson take advantage of them?

What was shown by the salesperson's first question?

Why was it possible for the salesperson to suit the customer with the first dress shown?

What was the probable effect of this sale on the customer?

¹ William Filene, Boston.

II. What clues were given the second salesperson?

What do you think of the selection of merchandise?

What reason had the salesperson for supposing that this customer would be interested in seeing and hearing about the new things?"

What opportunities were lost?

Why is information that customers give us when talking to one another often more useful than what they tell us directly?

No. 150.

EFFICIENCY BULLETIN.

December 30, 1912.

THE TECHNIQUE OF SELLING.

The customer who is just looking.

In the stress of Christmas business perhaps no customer has been more often seen than the one who was "just looking."

If our Christmas experience has been valuable to us, we should know better how to deal with the person who answers us in this way when we offer to be of service.

Because many of us have felt such cases hopeless, it should be of value to us to know what some of our people are doing to turn a customer of this kind into a purchaser. One salesperson reports the following case:

A few days ago a customer was passing through the machine-made dress department, and stopped to look at some dresses on the racks and forms. I addressed her, but she gave the often-heard answer, "No, thank you, there's nothing in particular. I'm merely looking at the dresses as I'm passing through." I noticed, however, that she continued to look, and thinking perhaps to get her interest, I selected one or two of the *most attractive models* I could find, and showed them to her, incidentally remarking about the style, quality of material, and workmanship. The customer showed interest at once, asked several questions about the dresses in general, and finally remarked, "I wonder if you have anything pretty, suitable for an elderly lady?" Several models were shown, all of which pleased the customer. "I think that is just what I want for a gift for my mother. I'm not prepared to buy to-day, but I shall be in again."

The next day the same customer returned and bought a dress.

There was a customer who was looking for "nothing in particular," but who really wanted something.

Do you think that it is fair to infer that the customer who is "just looking" will buy if she finds what she wants?

If you think she will, is there any customer to whom we should be more ready to show our merchandise in order that she may purchase with us rather than elsewhere?

Customers have many times complained of our store because salespeople *would not show merchandise*. May not this account for loss of trade with the "looking" customer?

Do you agree with the method used by the salesperson in the above case when she picked out the *most attractive model* she had in order to get the customer's interest and also to get the cue to what the customer was really "looking" for?

Conferences of operating force.—In addition to the buyers' conferences with members of the sales force, conferences of the members of the operating force are also desirable.¹ At weekly conferences of

¹ Bernice M. Cannon. (See p. 80.)

the elevator operators rules for operating, business decorum, complaints of customers, and liability laws may be discussed. At weekly conferences of the markers there may be discussed the subjects of textiles, color and design and the most efficient way of doing their work. Conferences may also be held at which the floor clerks who are assistants to the floor superintendents discuss the problems which come up in their work and make the experiences of each one of value to the rest.

Lectures.—Some department stores, in their efforts to educate their employees, place chief reliance upon lectures on store topics, which are delivered to the employees at regular intervals by supervising officers. Some of the subjects on which such lectures are delivered are the following: "Approach," "department," "lookers," "system," "directing customers," "suggestive selling," "enthusiasm," "courtesy," "loyalty," "time," "cooperation," "errors," "advertisement," "service," "indirect advertising," "industry," "knowledge of merchandise," "care of merchandise," "wastes in business," "store directory," and "store system."

Bundle wrappers.—The service instruction for bundle wrappers may be covered in the five lessons given below, to be followed by a written examination.¹ The efficacy of the instruction may be increased by giving to each girl who passes the written examination an increase in her salary of 50 cents per week and by offering a prize of \$1 to the girl who receives the highest grade during the month.

FIRST LESSON.

United States coin.
United States currency.
Canadian.
Counterfeit coins.
Money test.
Comparative size of gold coins.

SECOND LESSON.

Credits—cash and charge.
Merchandise certificates.
Bank checks.
Postal and express orders.
Home work—preparation of part-payment sales checks.

THIRD LESSON.

Part-payment checks.
Relief—noon, incidental, part-time.
Disposition of several parts of sales checks.
Home work—preparation of due package check.

FOURTH LESSON.

Due package.
Inspection of merchandise.
Correcting and reporting errors.
Wrapping.
Mail and telephone orders.

FIFTH LESSON.

Transfers.
Lost and found parcels.
Authorization—O. K.
 Why necessary.
 When is floorman's O. K. demanded?
 When is head of stock's O. K. demanded?
What to do in case of fire.

¹ W. S. Westhaper. (See p. 30.)

Store system instruction.—Every newly-hired sales person requires detailed instruction in the details of the store system, and especially in the preparation of the different kinds of schedules before she is given a sales book and assigned to a selling section. This instruction is generally given from 8.30 to 9.30 each morning. New employees are sent to this instruction room once before they are assigned to a selling section and on at least two subsequent days. The older sales people are sent to the instruction room whenever the aisle manager observes that they do not understand the principles of store system and schedule writing needed by them in the performance of their duties.

The following is a detailed description of the various schedules in use in most stores. To this are added suggestions for the order in which this schedule may be treated in lectures.

LECTURES ON VARIOUS SCHEDULES FOR SALES PERSONS.

FIRST LESSON.

Cash sale: "To be taken."
Cash sale: "To be delivered."
Charge sale: "To be taken."
Charge sale: "To be delivered."
Collect on delivery.

SECOND LESSON.

Cash transfer sale.
Charge transfer sale.
Mail order—Cash, charge, samples.
Part cash—Part C. O. D.
Due package.

Elementary salesmanship.—Elementary instruction in the principles of salesmanship is generally confined to the elucidation and application of the fundamental psychological principles involved in making a sale.¹ The methods of attracting the attention of the customer by the sales person's personal appearance, expression, and deportment are shown; the methods of arousing the customer's interest by the proper use of the voice, by an adroit opening thought and by the saleswoman's knowledge of human nature are explained; the means of arousing the customer's desire by a skillful use of the sales person's knowledge of the merchandise and an adequate description of the goods are presented to the novice and the manner of influencing the customer's resolve to purchase by mentioning the price and closing the sale demonstrated in detail.

Let an actual occurrence illustrate. It will be easy to recast it and apply it to any branch of merchandise.

The beginning: A pretty tie in the window of "Trois Quartiers."

The hero: A salesman, dressed in good taste, courteous, English-speaking.

Yes; customer will take the tie.

"Thank you! These, too, are handsome—n'est-ce pas?"

Two of them prove quite too pretty to ignore.

¹ W. H. B. Kilmer. (See p. 30.)

"Tourists are liking this new tie just now."

"Do you like these new shades? They are going to be popular this fall."

"This new full-dress tie is dignified; don't you think so?"

Six ties are bought instead of one.

Then, white gloves and the newest muffler. The new dress tie clearly required them.

Certain half hose came forward that harmonized beautifully with some of the first-chosen ties.

A new leather belt was good to replace the shabby one in use.

"Collars? You see this little difference here? They are distinguished—would increase the effectiveness of the new ties."

Purchaser remembers there were some raw edges returned with last laundry.

A dozen of the new collars added to the list.

"Thank you; no!" with a laugh; "I simply mustn't let your goods tempt me further."

Notice there was no pressure to sell; no direct questioning of the customer. The goods were brought forward chattily, without haste or awkward pause, as an amateur might display things he loved and tell of their interest for himself.

The goods were the salesman; not the man.

The following incident is cited as a clever exhibition of salesmanship:

"May I ask, did you find what you wanted?"—with a courteous smile—one of our assistants questioned a lady and gentleman just leaving his section.

"No; I didn't. I guess I am looking for something that doesn't exist," said the lady.

"Won't you be so good as to tell me what it is?"

Article described.

"I'll have it made for you."

"Thank you!—but we leave town this afternoon."

"But perhaps you come back by way of Philadelphia?"

"Yes; after a week at Atlantic City."

"Good! May I make the bag? It will be here for you in just one week."

The bag was ready and pleasing; the sale was \$28.50 for this bag, and \$17 for two other articles selected in addition.

Then the lady spoke of a hat.

Our assistant directed them to the millinery floor, suggesting they ask for Miss ———, who, he could assure, would give good service. He then quickly got the millinery floor manager on the phone, telling him that Mrs. and Mr. ——— were coming up and would probably ask for Miss ———.

The floor manager was able to recognize the customers. He called them by name and put them into good hands, explaining that Miss ——— was on vacation. A hat was sold, and other purchases followed. The total amount involved was some hundreds of dollars.

"A wonderful store! The kind we like to deal with, and never find so good anywhere else," said these friends in bidding good-by. But we say, simply, *good storekeeping.*

This subject may also be set forth to the clerk in bulletins, such as the one that now follows:

No. 186.

EFFICIENCY BULLETIN.

May 25, 1914.

INTERPRETING MERCHANDISE FOR THE CUSTOMER.

Merchandise has a history. Much has happened to it before it reaches our hands. It may have come from a remote part of the globe—from Australia, India, Russia, France, Japan—and passed through many lands on its way to us.

Its present history begins with us; its future depends upon us.

The sales person makes its acquaintance and, to a certain extent, studies it. She studies it chiefly from the point of view of the present; that is, in terms of stock—such and such a price, style, color, size, in such and such a location.

The average customer on entering a shop has the future point of view. She has not defined the article she comes to buy; she may know nothing of its past or of its present existence in terms of stock. She has, however, a *use* for it. We determine whether that need is to be supplied. Thus there is a mental *gap* between the two points of view.

The sales person who approaches with questions of price, style, color, etc., shows that she has not studied and grasped the possibilities of her merchandise, the uses to which it can be put, its *future*. Figuratively speaking, she does not budge one step to meet the customer, but attempts the dangerous task of making the customer bridge the gap and walk every step of the way to her till they are on common ground.

To illustrate: A customer asked to be shown a coat to wear motoring over a simple silk dress that she had on. She was using her suit coat, and so wished to purchase for immediate wear. The sales person said, "We haven't anything; they have all been closed out." The customer, in surprise, asked, "What kind of a coat do you think I want?" and persisted in being shown something. The merchandise selected was so inappropriate that she went away without buying. While making another purchase she chanced to remark how odd it was that in such a large store she could not find a coat for her purpose. She was persuaded to try again and did find just the article that she could use. Moreover, this was her first visit to the store, and before she left her cash sales amounted to about \$100.

An incident like this is peculiar to no one department. It is happening in all, and is a problem for all. The solution lies in studying our merchandise from every point of view, past, present, and future—feeling its *human interest* and *possibilities*.

The more we interpret its past as well as its present, the better able are we to interpret its future. We *must* study its future—the individual and occasion it can best serve. If we study our merchandise in these ways, the right customer will appear and we shall have the right merchandise already selected for her.

Social aspects.—In all this service instruction the social aspect should not be neglected. An attempt should be made to stimulate interest in the larger aspects of familiar things, to set personal as well as business standards, to broaden the girls' outlook by increasing their personal resources, to develop a high degree of personal efficiency by instruction in hygiene, to develop the economic sense by a discussion of the meaning of capital and wages, and to maintain a proper balance between income and expenditure by planning personal budgets.

Textiles.—Instruction in textiles usually includes a full exposition of the production and manufacture of cotton, linen, silk, wool, hemp, jute, and ramie from the raw material through all the stages of manufacture to the finished product. Instruction is also frequently given in color and design. The instruction in color includes an exposition of the groups of color, tones, tints and shades, and color harmonies. In the study of design the sales people receive instruction in rhythm, balance, and unity, in suitability and uses, and in the practical applications of color and design in house furnishing and costumes.

No. 171.

EFFICIENCY BULLETIN.

October 17, 1913.

SATISFACTION VERSUS SELLING.

This store was organized and equipped not for one day, one year, or one lifetime, but for many. To insure its future we must look beyond the immediate sale and sales total of the day.

We may sell to a customer, or we may satisfy her—the two are not yet synonymous. A sale may be made though our efforts are half-hearted. A customer can be made satisfied only by earnest, intelligent effort which calls to aid *all the resources that the store offers.*

To illustrate:

A customer came to us to buy a hunting outfit. She went first to the shirt-waist department and explained that she wished something for the mountains. She knew that she wanted a flannel waist, but could not give the exact style. Those shown her were not what she wanted, and so she went away without purchasing when the sales person said, "*These are all we have.*"

She then tried to get a skirt, and again did not see what she wanted, and was told, "*These are all we have.*"

She abandoned the idea of getting anything for herself and looked for riding outfits for her two daughters, 8 and 10 years old. She met with the same reply.

This customer was leaving our store, which is the largest specialty shop in New England, without finding what she wanted.

Fortunately, she was intercepted. The result was that she purchased in the boys' department just the waist she wanted, found in another department a heather-down skirt such as is used exclusively for hunting because it does not wrinkle or shrink under any weather conditions; bought in the boys' department two corduroy suits which were excellent for riding habits, and added to these bloomers, garters, storm shoes, and leather gaiters.

In short, *we had what she wanted*, but she was leaving us to buy elsewhere, because of our lack of resourcefulness.

Arithmetic.—The instruction in arithmetic for saleswomen is usually most elementary, being confined to instruction in addition by the quickest methods for use on sales slips and to instruction in simple fractions, such as are used in selling yard goods and parts of dozens. Most of the problems used in this instruction are those which actually arise during the day in the store, and the object of

the instruction is to familiarize the saleswomen with the quickest and easiest methods and to dispel the fear of this subject. Additional instruction is sometimes offered in the principles of subtraction, used in counting back change, and in the principles of percentage employed in the calculation of discounts.

IV. CONTINUATION INSTRUCTION.

Continuation classes.—The compulsory education laws of several States prescribe that when a boy or a girl leaves school for the purpose of going to work at the minimum age at which he is permitted to do so, he must attend a continuation class for one or two years to complete his education. These laws also generally impose upon employers the obligation of dismissing such employees at a sufficiently early hour to enable them to go home, take their supper, and report at the evening continuation school at the commencement of the session. Because of the inconvenience of complying with this provision of the law, many employers prefer to give their employees the benefits of continuation instruction in their stores in the early morning when the business in the stores is normally light. In these cases the stores furnish the room, light, heat, and equipment, and the educational authorities provide the teacher and the supplies.

Morning instruction.—Comparatively few customers visit department stores in the early morning hours, and the service of the store is not interfered with if the junior employees are given instruction during these hours. The usual school hours are from 8.30 a. m. to 10 a. m., and the most satisfactory arrangement is one in which one-third of the junior employees attend each day, thus giving to each employee two consecutive school days each week.¹ The school year is furthermore frequently divided into three terms—a fall term, extending during October and November; a Christmas recess during December; a winter term during January, February, and March; and a spring term during April and May.

Subjects of curriculum.—Arithmetic, spelling, penmanship, and English are the academic subjects most generally taught in continuation classes. A discussion of current events is sometimes included in the course of study; and instruction in civics, ethics, and public speaking is occasionally provided. In large establishments in which the number of pupils justifies it the employees are divided into two or three grades, in accordance with the extent of their previous education.

Secondary instruction.—A few employers provide continuation instruction of a character similar to that furnished by commercial evening high schools. The subjects of instruction include business

¹ W. D. Earnest. (See p. 30.)

EMPLOYEES' DISCOUNT SCHEDULE

Should show 10% of the total purchase price deducted, showing net total as the amount of sale on both body of schedule and voucher, with the name and number of the employee on the back of the schedule, and the aisleman's signature.

C. O. D. SCHEDULE ADVANCE

The duplicate taken from the address, and number compare.

Attach to and voucher schedule and to inspector.

Have aisle for labor noted on voucher.

k-
as,

ter.
B-5
10
11
11
6
8
9
the

ges.
-54
-108
-76
-101
-83
-30
-92
-150
-165
ects

EVEN EXCHANGE SCHEDULE

Make out as shown. Have signed by aisle manager, and

CREDIT.

Schedule -

refer
who

eral,
ties,
u

Chapter 1, Business Methods.

The form and construction of business letters will be studied followed by original work, which in turn should be criticized. The pupils should be encouraged to bring letters to class to study.

the in PAID TAKEN SCHEDULE

and e Differs from a *Paid Send*
instr Schedule in that the *Send*
in co Part of Original and ad-
plove dress part of duplicate are
both left in book.

Co
Sta te
pose
to do
com F
empl
early
at th
sion.
visio
the l
morr
cases
the e
Me
ment
is ne
duri
10 a.
third
empl
furl
tend
Dece
and
Sz
Eng
atio
in tl
spea
the 1
or t

CHARGE SEND SCHEDULE

*All of original and voucher
duplicate detached and*

of a character similar to that furnished by commercial
gh schools. The subjects of instruction include business

PAID SEND SCHEDULE

Detach all of the original
and body of duplicate, leav-
ing address part of duplicate
in book, showing amount of
sale. *Send* both, properly
fastened (exposed), with
merchandise to inspector's
desk.

In all paid sales keep the
inspector's voucher, stamped
by the cashier, indicating
which cashier you paid the
money to. THIS IS YOUR
RECEIPT. At the close of
the day you must have a
voucher for each paid sale;
place these in a voucher bag,
seal it up, note the date, sec-
tion and sales number on the
face of it, and hand it to
some one who collects them
for your section.

CHARGE TAKEN SCHEDULE

Must be signed by the
aisleman. *Except* that a cus-
of a character similar to that furnished by commercial
gh schools. The subjects of instruction include business

arithmetic, business law, business geography, business English, book-keeping, and spelling, with occasional additional instruction in civics, history, and public speaking.

JOHN WANAMAKER COMMERCIAL INSTITUTE, NEW YORK.

COURSE OF STUDY

Senior class.

Spelling.

Words selected by teacher from the daily papers.

Arithmetic.

Text: A Practical Business Arithmetic. Moore & Miner.

Banking and bank discount.

Stocks and bonds.

Partnership.

Exchange (domestic and foreign).

Customhouse business.

Rapid addition (part of each lesson).

Business methods.

Text: Business Methods. Teller & Brown.

	Chapter.
Banking, bank discounts, and drafts.....	3-5
Merchandise sales, stocks, and bonds.....	10
Partnership	11
Insurance.....	11
Postal information.....	6
Railroad and express business.....	8
Contracts, leases, and bonds.....	9

The above subjects will be required. The first four will be taught when the respective subject is introduced in arithmetic.

Business law.

Text: Bly's Business Law.

	Pages.
Negotiable papers	33-54
Interest and usury.....	106-108
Partnership	72-76
Insurance.....	98-101
Corporations	77-83
Contracts	6-30
Common carriers.....	89-92
Nuisance.....	158-159
Highways.....	160-165

These subjects will be required and should be taught when similar subjects are introduced in arithmetic.

Business geography.

Text: Geography of Commerce and Industry. Rochelau.

This subject embraces a study of the distribution of the vegetable, mineral, and commercial products of the United States, its transportation facilities, telephones, telegraphs, and submarine cables. In each of these the relation of the United States to foreign countries will be shown.

Correspondence.

Chapter 1, Business Methods.

The form and construction of business letters will be studied critically and followed by original work, which in turn should be criticized by the teacher. The pupils should be encouraged to bring letters to class to study.

Civics.

Text: Syllabus of Civics. Boynton.

Public speaking.

Original work in the preparation of briefs and their delivery before the class. The research should be along the lines suggested by the study of civics and business methods.

Bookkeeping.

Modern, illustrative.

United States History.

Text to be developed from and illustrated by means of lantern slides of paintings, bas-reliefs, and prizes found in the Capitol at Washington, showing the development of the country and Government. The course to culminate in a trip of the graduating class to Washington.

V. CONCLUSION.

Prevocational training.—Some department stores offer prevocational training to high-school students by calling upon these high schools for students for stock, selling, marking, and office work on busy days and in emergencies. They also offer a laboratory course in selling for two hours on Friday afternoons to high-school girls who are taking the salesmanship course in the high school. While these high-school students are in the store, the girls whose places they take are receiving instruction in continuation classes. The head bookkeepers of some stores give courses of instruction in practical bookkeeping in the high schools, and the head cashiers sometimes give similar instruction in the work of department store cashiers and examiners, offering permanent positions in the stores to the pupils who show special aptitude for department store work.

Training of teachers.—So great has become the demand for teachers in department stores, continuation schools, and high schools that a training class for teachers has been established in Boston by means of cooperation between the Union School of Salesmanship and Simmons College of that city. The students spend Mondays in selling in department stores, the mornings of the rest of week in observation of the theory and practice of teaching in the Union School of Salesmanship, and the afternoons in technical courses at Simmons College. About 30 graduates of this training class are at present engaged in teaching salesmanship in department stores and in vocational and prevocational classes throughout the United States. These training classes were founded by and are still under the direction of Mrs. Lucinda W. Prince, who is the mother of salesmanship instruction in American department stores.

The schedules of classes in the Union School of Salesmanship, both for saleswomen and for the teachers' training courses, are given below:

SCHOOL OF SALESMANSHIP.

Schedule of classes for saleswomen.

Daily session.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8. 30 to 11. 30	Salesmanship. Textiles.	Arithmetic. English.	Sale slip. Color and design. Hygiene.	Arithmetic. Salesmanship.	Arithmetic. Merchandise.
	Lecture from store representative.	Demonstration sales.		Textiles.	Economics.

COURSE OF STUDY.

Salesmanship:

- Discussion of store experiences with application of principles involved.
- Demonstration of selling in class with class criticism.
- Lectures by representative business men and women on different phases of retail selling.
- Class conferences on important salesmanship subjects: Care of stock, approaching a customer, etc.
- Individual conferences with girls on points observed in teachers' "follow-up" work in the stores.

Textiles:

- Fibers—wool, silk, cotton, linen.
- Manufacture.
- Fabrics.
- Commercial geography.

Color and design:

- Recognition of color tones.
- Color combinations.
- Appropriate use of colors.
- Principles of design applied to dress and furnishings.

Economics:

- Relation of capital and wages.
- Relation of expenditure to income.
- The spending of money.
- The saving of money.

Arithmetic:

- Sale-slip practice and store system.
- Drill in addition and multiplication.
- Fractions.
- Percentage.
- Cash accounts.
- Business forms.

Personal hygiene from the point of view of business honesty:

- Hygienic dressing.
- Personal appearance.
- Bathing.
- Sleep.
- Ventilation.
- Diet.
- The nerves, etc.

Practical talks:

Besides the lectures on business subjects, practical talks are given on such topics as—

Vocational training.

The Consumers' League.

Books and reading.

The minimum wage.

TEACHERS' TRAINING CLASS, 1913-14.**MORNING.**

Monday.	Tuesday.	Wednesday, Thursday, Friday, Saturday.
Selling in department stores.	Study of merchandise and store system in cooperating stores. Supervision of store work of pupils in salesmanship school.	Observation, theory, and practice of teaching the following subjects in the salesmanship school: Textiles. Color and design. Hygiene. Salesmanship. English. Merchandise. Economics. Arithmetic. Daily conference with the director on the morning's work.

AFTERNOON.

Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
Selling in department stores.	Economics. Industrial history.	Education. Textiles.	Applied psychology. Education.	Textiles. Textiles.

The afternoon work is at Simmons College and continues during the year with the exception of economics, which is a six weeks' course in the fall.

Various mills, factories, and schools are visited in connection with the above courses.

VI. APPENDIX.**DEPARTMENT STORE COURSE OF STUDY.****FIRST WEEK.****First lesson:**

- (1) National movement for vocational training.
- (2) Salesmanship in colleges, high schools, commercial schools, insurance companies, etc.
- (3) The position of saleswoman as a representative of the firm.
- (4) Opportunity for service.

Second lesson:

- (1) The competition of to-day.
- (2) Essential qualifications of a good sales person.

Third lesson:

Approach to customer.

Fourth lesson:

Textiles.

Fifth lesson:

- (1) Discussion of selling experiences.
- (2) The treatment of price.
- (3) What is salesmanship?

SECOND WEEK.

First lesson:

- (1) "The girl and the selling game." Reading and discussion.
- (2) Suggestion in selling.

Second lesson:

The demonstration sale.

Third lesson:

- (1) Habit.
- (2) Discussion of newspaper article on selling.

Fourth lesson:

Talking points of merchandise.

Fifth lesson:

Silks.

THIRD WEEK.

First lesson:

- (1) Type of customer.
- (2) The "just-looking" customer.
- (3) The customer who wants to look elsewhere.

Second lesson:

Care of the feet and footwear.

Third lesson:

Demonstration sale.

Fourth lesson:

- (1) The Dry Goods Economist.
- (2) Little points in selling.
- (3) Discussion; experiences.

Fifth lesson:

Lecture: "Color in dress."

FOURTH WEEK.

First lesson:

- (1) The undecided customer.
- (2) The man customer.
- (3) The set-price customer.
- (4) Tired customer.

Second lesson:

- (1) Remarking to another person while serving a customer.
- (2) Knowledge of stock.
- (3) Service talk, from "Store chat."

Third lesson:

- (1) The use of English in selling.
- (2) Adjectives used in describing merchandise.
- (3) The voice.

Fourth lesson:

- (1) Demonstration sale.
- (2) Types of customer—The tired—Fussy.

Fifth lesson:

Cotton.

FIFTH WEEK.

First lesson:

Lecture: "Color contrast and part contrast."

Second lesson:

- (1) Store organization.
- (2) Merchandise lesson—Buttons.

Third lesson :

Lecture—Buying.

Fourth lesson :

Waste in business.

Fifth lesson :

Narrowing the sale.

SIXTH WEEK.**First lesson :**

Lecture—Color balance.

Second lesson :

Visit to the Warnright Knitting Mills.

Third lesson :

- (1) The proper handling of merchandise.
- (2) Advertising; our relation to this end of the business.
- (3) Store directory.

Fourth lesson :

Written review.

Fifth lesson :

Oral review.

PRINCIPAL DEPARTMENT STORE EDUCATIONAL DIRECTORS.

No.	Firm.	City.	Educational director.
1.	The Hub	Baltimore	Maud Husted.
2.	William Filene	Boston	Bernice M. Cannon.
3.	William Hengerer	Buffalo	Mildred Robinson.
4.	Sears-Roebuck Co.	Chicago	G. H. Miller.
5.	Halle Bros. Co.	Cleveland	Isabel C. Bacon.
6.	William Taylor & Son	Cleveland	W. S. Westhafer.
7.	L. S. Ayres	Indianapolis	Olma Steeg.
8.	Broadway Store	Los Angeles	W. H. B. Kilmer.
9.	Edward Schuster	Milwaukee	Alice F. Brown.
10.	L. Bamberger & Co.	Newark	Marjory Stoneman.
11.	Bloomingdale Bros.	New York	Anna Howell Wilcox.
12.	Lord & Taylor	New York	Beulah E. Kennard.
13.	John Wanamaker	New York	W. D. Earnest.
14.	Gimbel Bros.	Philadelphia	R. H. Preston.
15.	Emporium	San Francisco	M. V. Greene.

SERVICE INSTRUCTION OF TELEPHONE COMPANIES

I. THE OPERATOR.

Divisions of the telephone service.—The employees of telephone companies are usually divided into five departments: The commercial department, which makes contracts with the patrons of the company and collects payment for the service rendered; the accounting department, which keeps the books and accounts of the company; the engineering department, which attends to the larger technical problems of the company; the traffic department, which consists of the operating force; and the plant department, which installs and maintains the physical equipment. No service instruction is given to the employees of the engineering department, because they are all well equipped with technical knowledge before entering the employ of the company, and no service instruction is given to the employees of the commercial and accounting departments, because their duties are simple and nontechnical. Detailed instruction, however, is given to the employees of the traffic and plant departments.

Importance of operators.—Electricity, equipment, and operators are required for furnishing telephone service. Of these three elements, the operator is the most important, and to secure operators possessing the necessary qualifications the telephone companies make the work immediately remunerative by paying the operators while they are learning, offer employment to all who have learned the business, and offer to satisfactory employees permanent employment unaffected by dull seasons or an overstocked labor market.

*Hours of service and advancement.*¹—Since telephone service is continuous throughout the 24 hours, operators are required to work as day operators at salaries from \$6 to \$12 a week, as evening operators at salaries from \$7 to \$13 a week, and as night operators at salaries from \$8 to \$14 a week. As an operator's value increases with her experience, a schedule of wage increases has been provided to furnish extra remuneration at the end of given periods. Furthermore, pref-

¹ New York Telephone Co.

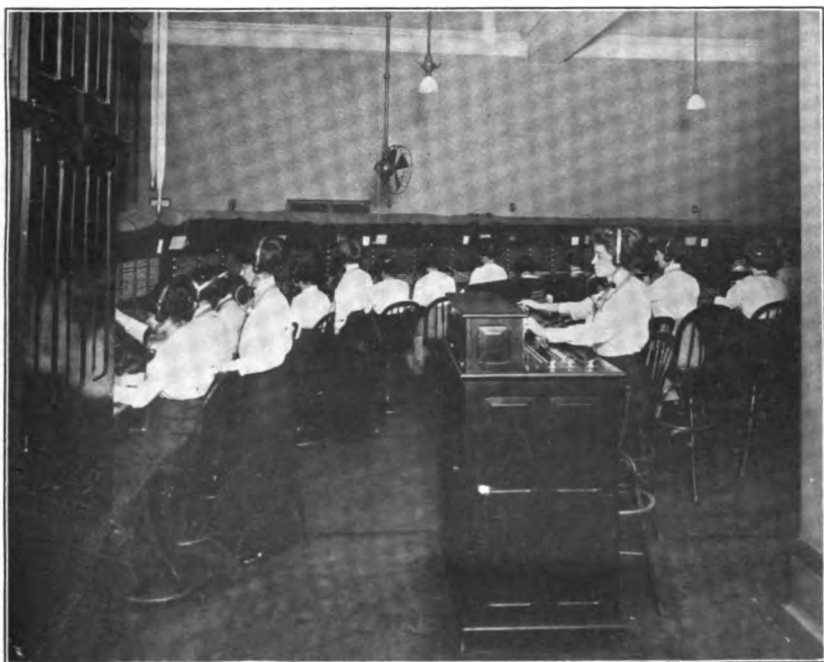
erence in hours of service is given to those who have been longest in the service. Operators of experience, possessing the necessary qualifications, are assigned to the higher positions of senior operators, information operators, and toll operators, and those who by their self-control, reliability, sympathy, ability, and cool-headedness demonstrate executive ability are promoted to the positions of supervisor at a salary of \$15 a week and of chief operator at a salary of \$25 a week.

Training of operators.—In the large cities the telephone company generally maintains a training school for operators, with a principal and a corps of instructors. In the smaller cities and towns the new operators are instructed by a local supervisor designated by the chief operator, who follows as closely as possible the course of study used in the operators' training schools of the larger cities. The course of instruction usually covers four weeks and the students are paid not less than \$5 a week while learning. Instruction is given by means of lectures, supervised study periods, catechism, recitations, written examinations, and demonstrations on a switchboard of the same type as those used in the regular exchanges. During these demonstrations the instructors personate subscribers and the students handle the calls as operators.

Qualifications demanded.—The applicants are subjected to a careful examination of their qualifications. They must be between the ages of 16 and 23, and at least 5 feet in height. Inquiry is made regarding the applicant's physical condition by questioning her regarding her present state of health, the illnesses she has had in recent years, whether she has ever suffered from any nervous trouble or fainting spells, and when she had occasion to consult a physician. No applicant is considered eligible if her general condition of health is bad, if she shows evidence of skin disease, or is afflicted with a physical deformity of hands or body that would in any way interfere with the proper performance of her work. Each candidate is required to read with each eye the letters on a standard test chart placed about 10 feet from her and to name the colors painted on the test chart. Her hearing is tested by observing the applicant while she is listening, particularly when questions are put to her in a low tone, and by asking her whether she is subject to earache, or to catarrhal trouble, or whether she has had abscesses in her ears or has noticed any trouble with her hearing. In addition to being given the reading test, the applicant is also required to repeat a list of numbers compiled for the purpose. During this test the clearness and distinctness of the applicant's enunciation and the accuracy and carefulness of her pronunciation as well as any impediment in her speech are noted.



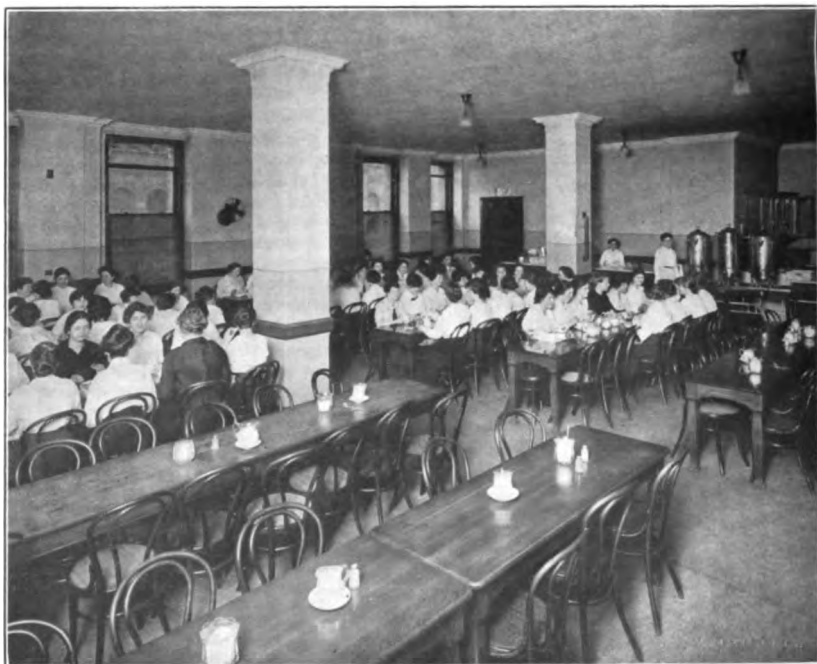
A. EXAMINING AN APPLICANT, NEW YORK TELEPHONE CO.



B. SCHOOL OF INSTRUCTION FOR OPERATORS.



A. REST ROOM FOR OPERATORS, NEW YORK TELEPHONE CO.



B. LUNCH ROOM FOR OPERATORS.

As far as may be practicable, applicants are required to have completed a course of study in a public school or its equivalent in a private school. Consideration is also given to courses of study in night school and business school and to experience gained in business offices and other places of employment. Each applicant is required to read aloud a selection from the General Regulations for Operators. The examiner notes whether this is done clearly, accurately, and with expression, and whether the applicant gives evidence that she has a correct understanding of the subject matter. He notes also whether the applicant speaks grammatically, and whether her speech is free from the current slang. The personal characteristics and mannerisms of the applicant are also observed and judgment is formed regarding her ability to think clearly and quickly and to act promptly and intelligently.

Candidates must possess an even temperament, a pleasing courteous manner, a neat businesslike appearance, good moral character, a willingness to work at night and on holidays, and possess general reliability.

Selection of applicants.—While waiting to be interviewed in reference to appointment and during the interview, each applicant is closely watched. The examiner notes whether she is quiet and dignified, pleasant in manner, refined in appearance, and courteous in speech. Tidiness and cleanliness of clothing and person, as well as the absence of frivolous appearances, are observed. The applicant's reliability is determined by judicious questioning, by observing her manner of talking and of replying to questions, from her general appearance and by ascertaining whether she is living with her parents and if not, the reason for this and the name of the person with whom she is making her home. Two reliable references are also required.

The following form shows the scope of the initial application.

NEW YORK TELEPHONE CO.

APPLICATION FOR EMPLOYMENT.

FEMALE.

Date _____, 191__

Name in full_____	Address_____
Age and date of birth_____	Married_____
What school did you attend?_____	What class were you in?_____
What position are you applying for?_____	
Is your eyesight good?_____	Is your hearing good?_____

FORMER EMPLOYERS.

(Give the names of the firms you have worked for, beginning with the last.)

Name_____	Address_____
Position held_____	How long employed?_____
Date of leaving_____	Wages or salary?_____
Why did you leave?_____	
Name_____	Address_____
Position held_____	How long employed?_____
Date of leaving_____	Wages or salary?_____
Why did you leave?_____	
Have you ever been employed by any telephone company?_____	
Have you any relatives employed by this company?_____	
Introduced to this company by _____	

REFERENCES.

Name.	Address.	Business.
_____	_____	_____
_____	_____	_____

REMARKS.

(These spaces are not to be filled in by applicant.)

II. OPERATORS' SCHOOL.

Central office operators, upon entering the employ of the telephone company, are given a four-weeks' course of instruction in telephone operating at the operators' school. In this school each class of students is placed in charge of a classroom supervisor. The course of study consists of lectures on operating practices and in the study of operating instructions issued for the guidance of central office operators. Each supervisor assigns the work to be covered during the study period and hears the recitations. In some cities the lessons, in leaflet form, are given to the students one at a time on the evening preceding the day they are to recite, and at the same time the instructress explains the lesson. On the following day the students give an oral recitation in the classroom, and later they are placed at the school switchboard, where the lesson is taught practically.

Scope of instruction.—The course of instruction embraces the organization, the functions, and the importance of the different officials and departments for the purpose of administration and operation, as well as the general rules governing the conduct of operators in their relations to the public, to their superiors in office,

and to each other. The student operator is taught the construction of the telephone instrument, the switchboard, and its central office auxiliary equipment by the use of telephone apparatus with all its interior works exposed and by the use of graphic charts depicting on a large scale the details of the minute parts of this apparatus. The whole make-up of an operating position at the board is shown and explained to the students, who are taught just what happens in every part of the plant from the time one subscriber who wants to reach another lifts the receiver of his telephone from its hook. The student is carried through the process of answering the subscriber's signal, taking his order, calling the number wanted, reporting busy lines, and "don't answers," to the point when he hangs up his receiver and thereby signals that he is through talking.

Lectures on operating practice.—A course of lectures on operating practice or the rules for handling all classes of calls is delivered by an instructress who is aided by a demonstrating section of a telephone switchboard and by charts and diagrams. The student must master the phraseology of this practice which has been adopted by all telephone companies after years of study and which is so skillfully worded as to meet all operating situations with the brevity and clearness of meaning necessary to the speed of service demanded by the public. This lecture course includes also instruction in the different classes of subscribers' service, the privileges to which each class entitles the subscriber, the method of handling business from automatic pay stations and prepayment subscribers' service involving the deposit of coins and the detecting of signals that the proper coin deposits have been made, the metering of calls from measured service subscribers' stations and pay stations, and the handling of toll and long-distance calls.

The thoroughness of such a course is apparent from the following typical courses of the New York and Chicago telephone companies.

NEW YORK COURSE OF STUDY.

FIRST WEEK.

1. General introduction to the business. Explanation of the hours, salaries, and regulations relating to attendance and deportment.

Answering, taking and repeating calls, local multiple calls, ringing, and rural line calls.

2. Explanation of the classes of service.

Central office abbreviations, writing tickets, registering, and requests for charges (on calls completed by "A" operators).

3. The method of handling trunk calls.

Direct circuit trunk calls, tandem circuit trunk calls, and ring-down trunk calls.

4. The method of handling calls (continued).

5. The description and use of toll boards.

Toll board two-number calls and toll board particular person calls.

6. The meaning and use of long-distance toll boards.

Long-distance two-number calls and long-distance particular person calls.

SECOND WEEK.**7. The organization of the company.**

Calls for official lines, information calls, "bell rang" reports, complaints, and equipment trouble.

8. Requests for charges and rates, abandoned calls, supervising, disconnecting, overlapping operations, right of way calls, and clearing double connections.

9. Multiple marking calls and answering jack marking calls.

10. Emergency calls and denial of service for nonpayment.

11. Telegram calls.

12. Calls from multi-coin prepayment stations and calls from postpayment stations.

THIRD WEEK.

13. Busy calls, including reversed calls.

14. Delayed and don't answer and out of order calls.

15. Wrong number calls.

16. Restoring connections.

17. Miscellaneous conditions and traffic record (peg count).

18. Review work and necessary special instructions.

FOURTH WEEK.

The lectures during this week will be devoted to reviewing the work already done by the students while in the school and to examining students to ascertain whether or not they are ready for transfer to central offices.

CHICAGO COURSE OF STUDY.

- | | |
|--|---|
| <p>1. The completion of local multiple connections.
 Answering calls.
 Taking and repeating calls.
 Use of different parts of key-board.
 Ringing.
 Testing.</p> <p>2. Classes of service.
 Line lamps.
 Registering.
 Tickets.</p> <p>3. Method of completing trunk connections.
 Direct circuit trunk.
 Tandem.</p> <p>4. Trunk connections.
 Buses.
 No trunks.
 Ringing.</p> <p>5. Trunk connections.
 Ring-down.
 Recording.</p> <p>6. Long distance.
 Particular person calls.</p> | <p>7. Organization and official calls.
 Handling complaints and equipment trouble.</p> <p>8. Supervision and disconnection.
 Third party connected.
 Right of way.
 Charges.
 Abandoned calls.</p> <p>9. Multiple marking calls.
 Answering jack marking.</p> <p>10. Emergency calls and denied service.</p> <p>11. Telegram calls.</p> <p>12. Buses and reversed calls.</p> <p>13. Don't answers and out of order.</p> <p>14. Wrong numbers.</p> <p>15. Restoring connections.
 Local multiple.
 Direct circuit trunk.
 Tandem trunk.
 Recording calls.</p> <p>16. Traffic record.
 "A" operators.
 "B" operators.</p> |
|--|---|

SUMMARY OF CHICAGO COURSE.

	Hours.
Operating switchboard practice.....	36
Voice training.....	6
Relief period.....	6
Recitation.....	44
Lunch period.....	10
Enunciation.....	12
Spelling exercise.....	4
Calisthenics (physical exercise).....	5
Explanation of new lesson.....	15
Dummy multiple practice (chart and lap boards).....	24
Hygienic lectures.....	4
Total number hours in school course.....	166

FIRST LESSONS IN TELEPHONE OPERATING [CHICAGO].

Lesson 5.

1. Q. If a call is received for "Information," what should the operator do?
A. She should repeat, "Information," and establish the connection.
2. Q. If the calling party asks for a directory, what should the operator say?
A. "I will give you the repair department."
3. Q. If the calling party states that his bell has been rung, what should the operator say?
A. "Will you excuse it, please?" and if he does not hang up, she should repeat the phrase. If he does not then hang up, she should say, "There is no one on the line now."
4. Q. If he still remains at the telephone, what should the operator say?
A. "Will you hang up, please?"
5. Q. If the calling party asks if his bell has been rung, what should the operator say?
A. "There is no one on the line now. Excuse it please?" and if he does not hang up, she should repeat the phrase. If he does not then hang up, she should say, "Will you hang up, please?"
6. Q. If the calling party requests a ring on his line, what should the operator do?
A. If the calling party gives his number, she should repeat the number. On individual lines, when the number plate shows the number, she should say "Yes, sir."
7. Q. If the calling party does not give his number, or the individual line has no number plate, what should the operator say?
A. "Your number, please?", and then repeat it.
8. Q. If the calling party does not hang up after giving the call, what should the operator say?
A. "Will you hang up, please, while I ring?"
9. Q. If in repeating the ring on the line the calling party states that he is an installer, what should the operator do?
A. She should remove the plug from the answering jack and pass an order to the trouble operator, saying, "Ring on (station number)."
10. Q. If the calling party requests the panel and jack numbers, what should the operator do?
A. She should refer to the panel number plate and answering jack number and give the information.

11. Q. If the calling party says, "What line?" what should the operator do?
 - A. She should refer to the number plate or reverting chart and (1) on an individual line, give the line number, (2) on a two-party line give either station number and add, "Two-party," (3) on a four-party line give the circuit number as, "Circuit (circuit number)," or if there is no circuit number, give any station number and add, "Four-party."
12. Q. If there is no number plate or entry on the reverting chart, what should the operator say?
 - A. "No number plate."
13. Q. If the calling party requests the class of service, what should the operator do?
 - A. She should obtain it from the lamp cap opal and give it.

III. PLANT EMPLOYEES.

Selection of plant employees.—Although applicants for positions in the plant department are not subjected to a physical examination, they are selected with respect to their physical ability to perform the work for which they have applied and must be of good moral character. They must also be able to read and to write legibly, and should preferably have at least a common-school education. No written examination is given to applicants for employment.

Training of plant men.—Employees of the plant department receive instruction in the inspectors' and installers' school. All instruction is given in the form of extemporaneous talks by the teachers, with illustrations on the blackboards, but no text books. The course of instruction is divided into three grades. New men have one week of instruction in the first grade. At the conclusion of this course two written examinations are held and the men are sent out to work for a week or more before entering upon the instruction of the second grade. The course of instruction in the second grade covers eight days. The time which elapses between the second grade and the third grade varies and depends upon the ability of the man and the amount of work on hand. The instruction in the third grade covers two weeks. In addition to the technical instruction given in this school, lectures are delivered to the men on such subjects as "Safety," "Relation with subscribers," "Manner of approaching public," "Personal appearance," etc. Employees in the plant department are also supplied with 28 instruction books for their information and guidance. These instruction books are revised from time to time and are supplemented by plant instructions and by engineering bulletins. Cable splicers are given a special one-week course of instruction by the splicing supervisor. This instruction consists of a series of talks, the actual performance of the work of a splicer's helper, and an examination on the subjects covered in the course.

Below is given a typical course for the training of plant men in telephone companies, together with typical examination questions

covering such a course. An examination paper from the training school of splicers' helpers of the New York Telephone Co. is also given as an example of examinations of this nature.

TYPICAL TRAINING COURSE FOR PLANT MEN.

First grade (new men—time, one week) :

Elementary electricity and magnetism. Splicing (inside wire, soldering, bridle and sleeve splices, bridging connectors). Cable system and cross connecting. Color code and cable lacing. Protectors. Assembly of No. 20-S desk stand. Connecting up instruments. Desk stand and wall set instrument circuits. Bell adjustment. Entering wires. Operating switchboards and monitors. Examination. General instruction.

Second grade (time, seven or eight days) :

Soldering wires to lugs. Bell operation. Bell adjustment. Generator. Induction coil. Transmitter. Receiver. Condenser. Desk-stand circuit. Assembly of No. 20 desk stand. Wall set circuit. Hotel set circuit. Trouble testing. Examination. Party-line bells. No. 50-A coin machines.

Third grade (time, two weeks) :

Positive supervision switchboard—

Trunk circuit. Buzzer circuit. Cord circuit. Supervisory circuit. Operator's set. Machine key tripping circuit. Relay circuit. Wiring of all circuits. Trouble testing. Examination.

INSPECTORS AND INSTALLERS' SCHOOL—FIRST-GRADE EXAMINATION.

1. In what direction does the electric current flow?
2. What is a direct current?
3. What is an alternating current?
4. What are volts, amperes, and ohms?
5. What is a magnet?
- 6 (a). What is a permanent magnet?
- (b). What is an electro magnet?
7. Diagram of No. 20 D. S. connected to 101 set.
8. Diagram of No. 20 D. S. connected to 295 set.
9. Diagram of No. 85 set.
- 10 (a). What is in the bell circuit?
- (b). What is in the transmitter circuit?
- (c). What is in the receiver circuit?

INSTALLERS AND INSPECTORS' SCHOOL—SECOND-GRADE EXAMINATION.

1. Explain the polarized bell and its operation.
2. Explain the hand generator and its operation.
3. Explain the induction coil and its operation.
4. Explain the transmitter and its operation.
5. Explain the receiver and its operation.
6. Explain the condenser, its properties, and why it is placed on the bell circuit.
- 7 (a). Draw a diagram of the desk-stand circuit.
- (b). Draw a diagram of the wall-set circuit (No. 85 set).
8. Draw a diagram of the hotel-set circuit (No. 293-R).
- 9 (a). What does a side tone indicate? (D. S. Ckt.).
- (b). What does no side tone indicate? (D. S. Ckt.).

10. What is the resistance of the bell winding?
 What is the resistance of the receiver winding?
 What is the resistance of the primary coil?
 What is the resistance of the secondary coil?
 What is the resistance of the transmitter?

NEW YORK TELEPHONE CO.—PLANT DEPARTMENT.

EXAMINATION QUESTIONS IN CONNECTION WITH THE SPlicERS' HELPERS' SCHOOL

- 1 (a). What is a feeder cable?
 (b). What is a block cable?
 (c). What is a house cable?
 (d). What is a trunk cable?
2. What are the two styles of terminal commonly used, and what is the rule governing their use?
3. How may a pair be distinguished in a cable?
4. What are the names by which the sides of a pair are distinguished, and give particulars as to how they are terminated?
5. What are the troubles which may result from faulty cable construction?
6. In addition to the above troubles, what are the troubles which may result from faulty splicing work?
7. What is a spare pair?
8. What is a straight splice?
9. What is a cross-connecting box?
10. What is the construction notification book in a central office used for?
11. What is a bridged pair?
12. What is indicated by the letter "B" placed before the conductor number on a cleat or form strip in a house cable?
13. What is the main frame in a central office?
14. What are the two sides of the main frame and how do you distinguish between them?
15. Why is a heat coil used and what means of protection is it?
16. How should a heat coil be placed in position?

The following is a list of the instruction books used in the plant department of a telephone company:

INSTRUCTION BOOKS—PLANT DEPARTMENT.

1. General instructions.
2. Subway cable work.
3. Block cable work.
4. House cable work.
5. Splicing.
6. Wiring.
7. Instructions for installers and inspectors.
8. Testing.
9. Trouble.
10. Booth installations and signs.
11. Wiring plans, P. B. X. and station circuit wiring.
12. Instructions to inspectors.
13. Cable testing.
14. Instructions to wire chiefs' forces.

15. Central office tests.
16. Central office inspections.
17. Routines.
18. Reports.
19. Records.
20. Trouble and trouble records.
21. Cable work and transfers.
22. Special circuits.
23. Standard stamps and abbreviations.
24. Emergencies.
25. Power plant, central office light and power circuit.
26. Central office buildings, furniture, and fixtures.
27. Engineering bulletins.
28. Tentative instructions for placing aerial cables.

TYPICAL SERVICE INSTRUCTION IN OTHER INDUSTRIES.

I. GENERAL ELECTRIC CO., SCHENECTADY, N. Y.

APPRENTICE COURSES.

Introduction.—The apprentice courses of the General Electric Co., of Schenectady, N. Y., were organized in 1901, with a view to stimulating in the minds of boys a desire to become thorough mechanics by systematic training of the mind, the hand, the wrist, and the eye in the trades of machinist, patternmaker, molder, blacksmith, and draftsman. The apprentice courses consisted at first merely of systematized training on the machine tools, but classroom work was soon added to complete the course of instruction. During the first 13 years in the history of the course the work was satisfactorily completed by 774 boys, of whom 493 were machinists.

Admission.—Each applicant for admission to the apprentice course must have a definite idea of the trade he wishes to follow, and his request for admission must be based, not on a sudden impulse, nor on the mere desire to find employment, but on repeated talks with his parent or guardian which have helped him to discover the trade that has appealed most strongly to him.

Applicants must be between the ages of 16 and 18, be able to speak, read, and write English, be of good habits, and be well recommended. All applicants must have completed the eighth grade of the elementary school.

Applications.—Applications for admission to the apprenticeship courses of the General Electric Co., at Schenectady, N. Y., may be made by the boy in person, accompanied by his parent, or by letter to the superintendent of apprentices, giving full particulars of the applicant's age, training, and reasons for seeking admission to the course. An application will not be accepted from any boy unless he has made up his mind to apply himself diligently and thoughtfully in the shops and in the classrooms to the task of making himself a more useful man to his employer, and to the community in which he lives, nor unless he has decided for himself certain rules of conduct which will establish his reputation for honesty, sobriety, and self-control in the shops and in his home. The parent of each applicant

must agree to cooperate with the superintendent of apprentices by carefully supervising the apprentice at home, by urging him to give a certain amount of time to his home work in mathematics and drawing, and by providing a consistent plan for the apprentice's recreation and pleasure. If the applicant resides in a town other than Schenectady, arrangements must be made to enable him to live with a relative or a guardian in Schenectady, who will be responsible for his welfare. At the completion of the four-year course of study, the apprentice receives a diploma and a bonus of \$100, and is given employment as a journeyman in his trade.

Course for machinists.—In the selection of applicants for the machinists' course preference will be given to those boys who are just leaving school, because they have not yet lost their habits of discipline, obedience, and study, and have not yet forgotten what they were taught in school. In the training room, which is equipped with machine tools and benches, these boys receive thorough instruction from competent teachers in the methods of machine and bench work. After completing the required time in the training room, the apprentice is transferred to one of the large machine shops, where he obtains experience in bench work and assembling work under the supervision of the apprentice department, which cooperates with the shop foreman and the instructors. The course covers four years of 2,770 hours per year, and the rate of pay is gradually increased from 10 cents an hour during the first year to 16½ cents an hour during the fourth year.

Course for patternmakers.—Apprentices in the patternmakers' course spend two years under competent instructors in the training room for patternmakers, which is equipped with machines and benches for wood patternmaking. At the beginning of the third year the apprentice is transferred to the regular pattern department, and during this year is assigned for three months to the foundry, where he performs the same class of work as that required of the molder apprentices. This experience is needed in order that the patternmaker may become familiar with the molder's problems and thus better assist in securing good castings. The duration of the patternmakers' course and the rate of pay are the same as in the case of machinists.

Course for blacksmiths.—Applicants for admission to the course for blacksmiths are required to pass an examination in arithmetic up to and including common fractions. They spend four years of 2,770 hours per year in the blacksmith shop, where they obtain an intimate knowledge of metals, their characteristics and proper treatment in forging, welding, and tempering.

Classroom work.—Each apprentice spends about 3½ hours a week during working hours in the classroom. The subjects taught

are those related to practical shopwork, including algebra, applied mechanics, blueprint reading, and mechanical drawing. In teaching the fundamentals of mathematics, problems are taken directly from shop practice to impress the apprentices with the practical use of the principles studied. All apprentices are required to do a certain amount of home work in the way of study and making finished drawings, with a view to inculcating the habit of reading and studying at home. Apprentices are paid the same rate of compensation while at school as in the shops. If an apprentice fails to pass his school examination or fails to complete the required number of drawings, this is recorded as lost time, and will bar him from advancing to the next year's work with its increase in compensation.

. *Course in mathematics.*—The following course in mathematics is prescribed for machinists, patternmakers, and blacksmiths:

First year:

First term—Factoring; greatest common measure; least common multiple; cancellation; fractions.

Second term—Simplification; decimals; measurement of circles; circumferential speeds; pitch and lead; shop problems.

Third term—Compound quantities; measurements (lines, arc; areas—rectangle, triangle, trapezoid, circle, sector, ellipse; volumes—solids having any of the above figures for base; angles); shop problems.

Fourth term—Metric system; board measure; general review; and shop problems.

Second year:

First term—Percentage; shop problems.

Second term—Ratio and proportion; involution; evolution; square root and applications; pulleys; gears; and shop problems.

Third term—Evolution; cube root; mensuration; triangles; trapeziums; polygons; shop problems.

Fourth term—Mensuration; cone; pyramid; sphere; shop problems; review.

Third year:

First term—Definitions; positive and negative numbers; algebraic expressions; fundamental processes.

Second term—Fundamental processes; simple equations; special products.

Third term—Factoring; greatest common divisor; least common multiple; fractions begun.

Fourth term—Fractions completed; ratio; simultaneous equations.

Fourth year:

First term—Graphs; powers; roots; radicals.

Second term—Quadratics; exponents; logarithms.

Third term—Rectilinear figures.

Fourth term—Similar triangles and circles; practical problems.

Course for draftsmen.—Applicants desiring to enter the course for draftsmen are required to pass an examination in arithmetic, including mensuration, metric system, and square and cube root. The first year is spent in the drafting room on blueprint work and tracing. The next year is spent in the shops, nine months in obtaining practical experience on machine work and assembling and three

months in the foundry. The last two years are spent in the drafting room. The course covers four years of 2,250 hours per year, and the rate of pay is increased gradually from $7\frac{1}{2}$ cents an hour during the first half of the first year to $18\frac{1}{2}$ cents an hour during the fourth year. During the first year the draftsmen receive the same classroom instruction in mathematics as the third-year machinists, and during the second year they receive the same classroom instruction in mathematics as the fourth-year machinists.

The following is the course of study in mathematics during the last two years of the course:

Plane geometry—three months.

Metrical relations and constructions; applications and review; practical problems.

Solid geometry—three months.

Lines and planes in space; polyhedrons; cylinder; cone; sphere; review.

Trigonometry—six months.

Functions of acute angles; tables; solution of right angles; goniometry; solution of oblique triangles.

Descriptive geometry—six months.

Fundamentals; straight lines and planes; problems in curved surfaces.

Mechanics—six months.

Composition and resolution of forces and velocities; concurrent forces; moments; motion; work power and energy; general laws of machines.

Strength of materials—six months.

Definitions and general properties of materials; moments for beams; investigation and design of beams; column or struts; shafts; elastic deformation; concrete; combined stresses; applications.

Classroom instruction in drafting.—The classroom instruction in drafting which is provided for draftsmen, machinists, pattern-makers, and blacksmiths covers the following curriculum in four terms, each of which lasts six months:

First term:

Practice; drawing-room standards; heads and nuts; screw lines and threads; problems; conventional methods.

Second term:

Projections and development.

Third term:

Brush holder studs and connections; brush holder yokes and details; brush holder; commutator; bearing; standard; oil gage; and fittings.

Fourth term:

Assembly.

Course for molders.—Applicants for admission to the course for molders are required to pass an examination in arithmetic, including common fractions. They must be between the ages of 18 and 21 and must be strong enough physically to work in a foundry. They must also be able to speak, read, and write English. These apprentices work in the foundries and receive practical classroom instruction on foundry matters one period a week after 4 o'clock. This classroom instruction consists of special problems in arithmetic and of instruc-

tion in drawing sufficient to enable the apprentice to work intelligently from a blueprint. The course covers four years of 2,500 hours a year, and the compensation of the apprentices is gradually increased from 14 cents an hour during the first year to the standard minimum wage of a journeyman during the fourth year.

COURSES FOR STUDENT ENGINEERS.

Introduction.—Since the capitalization and the personnel of electrical enterprises have more than doubled during each of the last two decades in the United States, there is no field which offers larger opportunities to young men possessing the necessary technical training and the qualities that make for success. For success in the service of an electrical manufacturing plant or a public-service corporation there is required, however, not only the fundamental knowledge of electrical laws which is obtained in college, but also such an acquaintance with the principles of the design, manufacture, testing, and installation of electrical machinery as can be obtained only at the plant of a large electrical manufacturing corporation.

Student engineers' course.—The student engineers' course of the General Electric Co., at Schenectady, N. Y., seeks, by furnishing this practical experience to technical-school graduates, to supply competent trained men to make commercial tests of its products, to train men for the service of the company, and to give opportunities for practical shopwork to college graduates. It is a postgraduate course for designers, manufacturers, salesmen, railway engineers, and research engineers. During the last decade 3,450 engineers pursued this postgraduate course in classes varying between 200 and 400 a year, according to industrial conditions.

Entrance requirements.—Applications for admission to the student engineers' course should be sent to the secretary of the students' committee of the General Electric Co., at Schenectady, N. Y., upon blanks provided for the purpose, with a full outline of the applicant's theoretical training, practical experience, and other special qualifications. The indorsements of college officers and of other engineers should accompany the application. Students are accepted throughout the year and are assigned dates for beginning their work after they have been accepted.

Testing department.—All student engineers spend one year in the testing department before being permitted to specialize in any other department. This testing work is carried on at Schenectady, Pittsfield, and Lynn in the following activities:

Schenectady:

Industrial control, train control, compensators, experimental flow meter, measure, speed and voltage regulators, railway motors, motors and generators, medium motors, large motors, steam turbines, and government work.

Pittsfield :

Transformers, regulators, and small motors.

Lynn :

Arc lamps, C C transformers and rectifiers, switchboard transformers, motors, and steam turbines.

In addition to this regular testing work the students are also assigned to special work and for three months to night tests. They are given practice in experimental railway work, including locomotive and car testing and experimental equipment work; in the illuminating laboratory, including general illumination and the efficiency of lamps; in the standardizing laboratory on the calibration of meters, iron testing, and oscillograph work; in the consulting engineering laboratory for periods varying from one week to two months, in assembly work, in high frequency and high potential tests, in shop practice, and in mechanical drawing.

Electrical course.—During the first year the student engineer may elect either the electrical course or the electromechanical course. In the electrical course the students are afforded experience in assembling and testing all kinds of apparatus, together with control devices and auxiliaries at Schenectady and at Pittsfield. At least three months are spent at the latter place.

Electromechanical course.—The electromechanical course, which is given at Lynn, seeks to give the students an understanding of machine tools and processes and to develop their mechanical conception. Shop experience precedes work in the testing department and time is also spent in the winding, cost, and production departments, and in the drafting room. The student is given experience in adjusting and testing various types of indicating and recording instruments, in adjusting and testing arc lamps, in photometric and research work, in constant current apparatus for operating arc lamps in series, in the manufacture and testing of series mercury arc rectifiers, in work on transformers and switching apparatus, in the commercial and special testing of alternating and direct-current motors, and in building and testing steam turbines and large air compressors.

General engineering extension.—Upon the completion of one year's work in the testing department student engineers may take an extension course in general engineering or in commercial engineering, receiving payment on an hourly or a weekly basis. After the completion of this course the men are transferred to the plants of the company throughout the United States and are recommended to railway, lighting, and power companies who ask the General Electric Co. for trained men. The general engineering extension consists of a probationary period of two months, followed by three courses of three months each. The first three months after the probationary period are spent in the consulting engineering department.

The remaining six months are spent in one or two of the following departments: Transformer department, alternating current designing department, direct current designing department, railway department, power and mining department, or another of the engineering departments at Schenectady. The course includes engineering, commercial and general lectures on Saturday mornings on factory costs, production, and organization.

Commercial extension course.—The commercial extension course, which is open to graduates of the one-year course in testing, is provided for student engineers who show adaptability for commercial work. The course requires from four to eight months and classes are formed whenever a demand for men arises in the commercial department.

Lectures and recreation.—Lectures on engineering and allied subjects are provided by the company for the student engineers. The Edison Club furnishes lectures, reading room, billiards, tennis, bowling, dancing, canoeing, and club entertainments. The Schenectady Boat Club, consisting of student engineers and young men in the employ of the General Electric Co., furnishes opportunities for boating, canoeing, tennis, club entertainments, regattas, camping parties, smokers, musicals, and dances. The General Electric Athletic Association furnishes opportunities for baseball, football, running, and tennis.

COURSES FOR OFFICE EMPLOYEES.

Introduction.—In addition to maintaining courses of instruction for shop apprentices and student engineers the General Electric Co., of Schenectady, N. Y., provides instruction in the evening, in cooperation with the board of education of Schenectady, for its office employees in the accounting, cost, credit, and collection departments. The purpose of the instruction, which is conducted along broad, practical lines, is to bring within the reach of the clerical employees adequate opportunities for development to enable them to meet effectively the exacting modern demands for efficient service.

Entrance requirements.—Office employees of the General Electric Co. who are 16 years of age or over are admitted to these courses without examination, with the exception that no student is admitted to the course in higher accountancy unless he has passed an examination in elementary bookkeeping following the requirements of the University of the State of New York for this subject. All students are required to pay a registration fee of \$1, which is returned at the completion of the course to all students who attend 85 per cent of the sessions of the class and who pass the examinations at the end of the course. Students must also purchase their own textbooks, but the purchase price is refunded by the company to all who qualify for the return of their registration fee. The curriculum

offers instruction in arithmetic, elementary bookkeeping, business English, typewriting, higher accountancy, and business economics.

Arithmetic.—The instruction in arithmetic is given in 20 periods of 45 minutes. Twenty minutes of each period is devoted to rapid calculation. Written tests are given every two weeks, and a rating of 85 per cent is required on the final examination at the completion of the course. Van Tuyl's Business Arithmetic is used as a textbook, and the following subjects are taught:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Equation of accounts. <ol style="list-style-type: none"> a. Equation of payments. b. Equation of accounts. c. Cash balance. 2. Percentage. <ol style="list-style-type: none"> a. Trade discount. b. Profit and loss. c. Marking goods. d. Commission and brokerage. | <ol style="list-style-type: none"> 3. Interest. <ol style="list-style-type: none"> a. Accurate. b. Compound. c. Negotiable paper. d. Bank discount. e. Present worth and true discount. f. Partial payments. 4. Stocks. 5. Bonds. 6. Taxes. 7. Partnership. |
|--|---|

Bookkeeping.—The instruction in bookkeeping is given in 20 periods of 45 minutes. One-half of each period is devoted to individual work. Tests are given after the study of each principle, and 85 per cent is required on the final examination at the completion of the course. The textbook used is the elementary set published by the H. M. Rowe Co., which contains the complementary work as well as the regular work. The following subjects are taught:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Definitions of bookkeeping and business terms. 2. Account books and their uses. <ol style="list-style-type: none"> a. Purchase book. b. Sales book. c. Cashbook. d. Journal. e. Ledger. 3. Classification of debits and credits. 4. Personal accounts. 5. Ownership accounts. <ol style="list-style-type: none"> a. Capital and proprietor's personal accounts. | <ol style="list-style-type: none"> 6. Notes receivable and notes payable accounts. 7. Cash accounts. 8. Merchandise accounts. <ol style="list-style-type: none"> a. Purchase accounts. b. Sales accounts. c. Inventory account. 9. Property investment account. 10. Operating accounts. 11. Journalizing. 12. Posting and checking. 13. Trial balances. |
|--|---|

Business English.—The instruction in business English is given by means of written papers and individual work in 24 periods of 45 minutes. There are tests in the correction of common grammatical errors, a mid-course examination, and a final examination on which 85 per cent is required. Davis & Lingham's Business English and

Correspondence is used as a textbook, and the following subjects are taught:

- | | |
|--|---|
| <ol style="list-style-type: none">1. The aim of business English.2. Review of grammatical principles.<ol style="list-style-type: none">a. Parts of speech.b. Sentences.c. Verbs.3. Punctuation.4. Spelling and uses of words.5. Fundamental principles of composition.<ol style="list-style-type: none">a. Unity.b. Coherence.c. Emphasis.<ol style="list-style-type: none">(a) In sentence structure.(b) In paragraph structure. | <ol style="list-style-type: none">6. Form of a letter.<ol style="list-style-type: none">a. Paper.b. Parts of a letter.7. Letter of application.8. Buying letter.9. Selling letter.10. Letters of introduction and recommendation.11. Collections.12. Advertisement.13. Reports and summaries. |
|--|---|

Typewriting.—The instruction in typewriting is given in 40 periods of 45 minutes, with a portion of the time devoted to individual work. In addition to monthly tests there is a final examination at the end of the course on which 85 per cent is required. Fritz Eldrige's *Typewriting Manual*, published by the American Book Co., is used as a textbook, and the following subjects are taught:

- | | |
|--|--|
| <ol style="list-style-type: none">1. Machine.<ol style="list-style-type: none">a. Mechanism.b. Care.2. Operation.<ol style="list-style-type: none">a. Keyboard drill.<ol style="list-style-type: none">(a) Four-finger method.(b) Three rows of keys learned.b. Review of keyboard.3. Word drill.<ol style="list-style-type: none">a. Practice in going from one bank of keys to another.4. Capitals and paragraphing.<ol style="list-style-type: none">a. Use of tabulator key.b. Rules for spacing after punctuation.5. Letters and drills.<ol style="list-style-type: none">a. Salutations and complimentary closings.b. Words and phrases.6. Figure drills.7. Letters and drills.<ol style="list-style-type: none">a. Including characters. | <ol style="list-style-type: none">8. General information.<ol style="list-style-type: none">a. Punctuation rules.b. Capital letters.c. Division of words.d. Figures (when and how used).e. How to make corrections.f. Instructions in erasing.g. Signs not on keyboard.h. Sizes of commercial envelopes.i. Sizes of typewriting paper.j. Hints regarding stencils.k. Proof-reading signs.l. Forms of address.m. Abbreviations.n. Double titles.o. Stenographer's initials.p. Inclosures.q. Bottom margins.r. Addressing envelopes.s. Short letters.t. Heading second sheets. |
|--|--|

Higher accountancy.—The course in higher accountancy will furnish instruction in the following subjects:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Review of the principles of accounting. <ol style="list-style-type: none"> a. Value of chief books of account. <ol style="list-style-type: none"> (a) Closing of these books. (b) Detection of errors. b. Trading statement. <ol style="list-style-type: none"> (a) Gross trading profit. c. Profit-and-loss statement. <ol style="list-style-type: none"> (a) Classification of expenses. (b) Net profit. (c) Dividend. 2. Statement of resources and liabilities. <ol style="list-style-type: none"> a. Current. b. Fixed. c. Contingent. | <ol style="list-style-type: none"> 3. Manufacturing accounts. <ol style="list-style-type: none"> a. Plant. b. Materials. c. Labor. d. Factory expense. 4. Cost accounting. <ol style="list-style-type: none"> a. Direct charges. <ol style="list-style-type: none"> (a) Material. (b) Direct labor. b. Indirect charges. <ol style="list-style-type: none"> (a) Factory. (b) Overhead expense. 5. Distribution of indirect expenses. 6. Departmental manufacturing accounts. |
|--|--|

Business economics.—The course in business economics comprises the general principles of corporation finance and organization, and special studies in the organization, routine, sales, and accounting classifications of the General Electric Co.

II. THE LAKESIDE PRESS, CHICAGO, ILL.

Vocational guidance.—Most boys when they reach the age of 14 years are forced by circumstances to become wage earners. They have had no special preparation in the schools for an industrial career, and generally receive no guidance while attempting to adjust themselves from the 75 per cent standard of efficiency in the schools to the 100 per cent business standard of efficiency. During the first two years of their business life most boys are employed in running errands or in performing other odd jobs which do not give them any training of value to them, and as a natural result the average boy considers that job best which pays the highest wages for the least work.

The printing trade.—In selecting their first jobs boys should endeavor to avoid the blind alley of incidental employment and seek work which is interesting to them and which offers them special training and opportunities for advancement. Printing, which ranks sixth among the important occupations of the world, has always attracted the better class of boys. The wages paid are high, and the work continues fairly constant throughout the year. The energetic and skilled workman has many opportunities to advance himself to foreman, superintendent, or manager, and the demand for skilled

workmen is so great that employers are giving much thought to the training of apprentices.

School for apprentices.—Under modern factory conditions the workmen are either too busy or have no inclination to be bothered by apprentices. Apprentices in a factory accordingly receive only such training as they can pick up by imitating the workmen beside whom they work. To furnish to its apprentices better and more systematic training, the Lakeside Press, of Chicago, established a school for apprentices in 1908, which furnishes the following advantages to boys: They learn the trade after they have entered the business; they receive wages while learning; their work is real and not theoretical; and they are under the supervision of an instructor during their shop-work. A special room is provided for the school, with one part equipped as a schoolroom and the other as a model composing room. The boys are in charge of instructors who devote their entire time to the school. The supervisor of the school teaches the academic work, and exercises general oversight of the boys in the factory; an instructor in design has charge of the work in design; and an instructor in printing has charge of the trade instruction.

Admission requirements.—Applicants for admission to the Lakeside Press School for Apprentices must be grammar-school graduates, between 14 and 15 years of age. Their school record must show good standing, and a physical examination may be required. Good moral character and a desire to learn the printing trade are essential, and the boy's parents must promise to cooperate with the school in looking after his welfare. Application for admission to the school should be made by letter. The supervisor of the school interviews the applicant and visits his parents, and if the boy appears to be satisfactory, he is given a fair trial. If both the boy and the supervisor of the school are satisfied by this trial, an agreement is entered into between the Lakeside Press, the boy, and his parents for a two-year preapprenticeship course.

Preapprenticeship term.—By the terms of the preapprenticeship agreement the firm agrees to teach the boy for two years; the boy agrees, if his services are satisfactory to his employer, to contract for five additional years as a full apprentice in the department which the firm deems best suited to his ability; and the parents agree that the boy will remain until he has learned the trade. During the preapprenticeship period the boys spend half time in the school and half time in the factory, spending three and one-half hours daily in the school and four and one-half hours daily in the shop. The boys are paid \$2.40 per week the first year and \$3 per week the second year, which is at the rate of 10 and 12 cents per hour, respectively, for the time actually spent in the factory by the boys during these

two years. Two weeks' vacation, with pay in advance, is allowed each boy whose average standing for the year is 95 per cent or above.

Course of study.—Arithmetic is reviewed from the factory side by means of an applied arithmetic prepared for this review work. Elementary bookkeeping is taught by means of lessons especially arranged for the printing office. The elements of algebra and geometry are taught, with problems applied to the trade. Every apprentice is required to read and review at least six books of standard literature each year. The lessons in design are applied in the written as well as printed work in all the different subjects. Every exercise is a lesson in English. The rules laid down for good book work are followed in all written work, and proof marks are used in correcting all exercises. No poor work is accepted. The boys are also given in the schoolroom graded lessons in setting type, reading proof, locking up small forms, and taking proofs. The standard is high and there is a carefully estimated time on each job. The habits of work are regarded probably as more important than the work itself, because it is believed that one who has become efficient in one thing readily learns to become efficient in other things. When the student has completed his exercises he is given commercial work. Real work has greater educational value in developing a skilled workman than work intended for the waste basket.

Factory work.—The boys work in relays in the factory. They are given work in the different departments in order that they may learn something of each of the various branches of the trade, and ultimately select the particular department they will enter and the line of work they will follow as a trade. The hours spent in the shop accustom the apprentices to factory work—to be on time, to be systematic, and to receive and carry out instructions promptly. These principles are quickly instilled in their minds when they enter a large workroom and work side by side with men. During the pre-apprenticeship period a well-rounded course rather than specialization is the aim, in order to insure a good foundation for advanced work during the apprenticeship.

Apprenticeship term.—Upon completing the preapprenticeship course the boys at the age of 16 enter the factory as regular apprentices to learn some one of the trades of the printing business. The academic training begun during the preapprenticeship course is continued during the apprenticeship; the boys attend school for several hours each week and receive regular pay. New subjects are added to the course of instruction. Much attention is given to designing, layouts for jobs are made and are carefully criticized after being carried out in type. Mechanics, industrial history, English, hygiene, and economics are taught. In the shops apprentices are given an opportunity to specialize in any one of the many branches of the

printing business—hand composition, linotype operating, monotype operating, bookbinding, feeding, press work, photo-engraving, lithograph work, photogravure, or offset work. Instruction in applied design, lettering, and the theory of color is given in the school, and in the shop the boys are given commercial work as far as possible, to make them realize that only good work will be accepted, and that to become efficient workmen, they must center their attention upon the work in hand.

Reports.—The supervisor cooperates with the parents of the boys by means of monthly reports and occasional visits. A descriptive report, a report of standings, and a graph of the average monthly standings are sent to the parents every month. All standings are based upon the quality and the quantity of work done. Time limits are set on each job or assigned task, according to past experience. If the jobs are performed within the time limit set and the quality of the work is up to the standard of the department, a credit of 100 is given, which means work satisfactory both as to quality and quantity. Since the quality must be up to the standard, the standings become largely a time basis record. Above 100 indicates excellent work, standard quality in less than the time limit set; 95 is the bonus standard; 90 indicates fair work, and 85 or less failure. Standings of less than 100 indicate that more than the time limit was taken to perform the job. In determining the averages, trade work is given a weight of 5, academic work a weight of 3, and deportment a weight of 2.

III. METROPOLITAN LIFE INSURANCE CO.

Introduction.—The service instruction of the Metropolitan Life Insurance Co. consists of a correspondence course of 10 lessons in the principles of life insurance for its agents and home office employees, the distribution among its employees of the large number of leaflets on health and hygiene published from time to time for the company's industrial policy-holders, classroom instruction in stenography for beginners and in mathematics for applicants for actuarial positions, systematic instruction in gymnastics and recreational activities for men and for women, and instruction in singing.

Correspondence course.—Each newly appointed agent is carefully instructed in the daily routine of his duties by his superintendent, who gives him individual instruction in the field. A biweekly publication of the company, called the *Intelligence*, seeks to impart instruction in salesmanship and to cultivate a company spirit in the agency force. On the completion of his sixth month of service the agent is enrolled in the correspondence course in the principles of life insurance.

This course consists of 10 lessons, which cover the subjects of mortality, interest, construction of a premium, and an analysis of the

several types of policies and plans of insurance. Each lesson, prepared in the form of a booklet of about 15 pages, has been written in a clear, simple, nontechnical style. The lessons are sent to the agents one at a time. A special blank is provided, on which each agent is required to send to the home office his answers to the questions printed at the end of each lesson. He is also encouraged to ask questions on the subject matter of the lesson. The answers are rated, and the corrected and annotated answer sheets are returned to the agents. A record of the work done by each agent is kept at the home office, and a diploma is issued on the satisfactory completion of the entire course. By holding conferences on the subject matter of each lesson, the superintendents in the field frequently supply that personal instruction the absence of which is the chief defect of correspondence instruction.

This correspondence course of instruction has greatly increased the efficiency of the agency force by increasing their knowledge of the underlying principles of life insurance, and by enabling them to answer more satisfactorily specific inquiries of the prospects. It has also increased the efficiency of the agency force by increasing the persistence of the graduate agent in the life insurance field. Of 10,860 agents in the employ of the Metropolitan during the calendar year 1913, more than 50 per cent were separated from the service. Of the 1915 agents who graduated from the correspondence course prior to January 1, 1914, more than 85 per cent are still in the employ of the company.

Distribution of literature.—With a view to reducing the mortality among its 8,000,000 industrial policyholders, the Metropolitan Life Insurance Co. publishes and distributes each year a vast quantity of literature relating to subjects of health and hygiene. The systematic distribution of this health literature among its employees gives them a valuable course of instruction in such subjects as the health of the worker, teeth, tonsils and adenoids, scarlet fever, small-pox, typhoid fever, consumption cures, sleeping in the open air, hygienic drinking cups, clean milk, flies, etc.

Classroom instruction.—The Metropolitan Life Insurance Co. offers two courses of systematic classroom instruction to such of its employees as may seek higher positions. For applicants for actuarial positions it maintains two classes in mathematics, each of which had about 20 students in 1913. The elementary class covered Hall and Knight's College Algebra from factoring to progressions (chs. 10 to 33), and the advanced class covered almost the whole of Hall and Knight's Higher Algebra. For such of its clerks as may seek advancement to a stenographic position, a class in stenography is maintained, in which there were 204 students in 1913. No specific course of study is provided for this class. It is essentially a speed

class, to enable candidates for stenographic positions in the company's service to keep in practice, improve their speed, and acquire familiarity with the phrases used in the company's correspondence.

Recreational instruction.—To stimulate interest in recreational activities which are so much needed by men and women who are engaged in the sedentary pursuits of office work, the Metropolitan has organized an athletic association, a glee club, and a choral society. The athletic association, which has a membership of 750, has supervision over the gymnasium, organizes tennis teams, baseball teams, football teams, basketball teams, and handball teams, makes arrangements for interdepartmental games and tournaments, and holds an annual field day at which there is usually an attendance of about 5,000 persons. At the 1913 field day over 200 participated in 12 events for men and 2 for women. Three prizes were awarded for each event. An instructor is employed by the company to give systematic instruction in physical exercise in the gymnasium to the men and the women of the clerical force on alternate afternoons. On the same floor with the gymnasium in a large auditorium, with a piano, which is used by the girls for dancing during the luncheon period every day and which is also used for concert purposes by the Men's Glee Club and the Women's Choral Society.

IV. D. E. SICHER & CO., NEW YORK.

Introduction.—D. E. Sicher & Co., of New York, manufacturers of muslin underwear, give to their employees systematic instruction in hygiene and safety matters, cooperative day-time factory classes, illustrated noon-hour lectures and recitals, and Saturday afternoon instruction in dressmaking.

Hygiene instruction.—Instruction in matters of hygiene is given to the employees in three ways. A service director is employed who is a trained nurse and who, being given the freedom of the factory, comes daily and continuously into contact with the employees and has the opportunity to give personal instruction whenever necessary. Printed directions are posted throughout the factory to warn the employees of the importance of following the instructions given in matters of hygiene. The following is an example of these:

COOPERATION MEANS SUCCESS.

CONSIDER YOUR OWN HEALTH AND THE HEALTH OF OTHERS.

THESE TOILETS ARE CLEANED FOR YOU.

PLEASE KEEP THEM CLEAN. THROW NOTHING ON THE FLOOR.

D. E. SICHER & CO.

Hygiene instruction is also given to the employees by the house organ, "Threads and Thoughts," which is published monthly and which always contains one or two articles on this subject, such as "Care of the hair," "Massage for the scalp," "Care of the skin," "Care of complexion," etc.

Safety instruction.—Safety instruction is given to the employees in four ways. Fire drills are held monthly and a careful permanent record is kept of each drill, giving the date, the time ordered, seconds required to empty the building, minutes required to return to work, and general success of the drill. The employers, at irregular intervals, make addresses on safety subjects during the noon hour. Safety instructions are posted throughout the factory. Finally, individual care and caution in the operation of sewing machines is insisted upon by the firm's machine instructor.

Day-time factory classes.—This firm has also established day-time factory classes in an effort to eliminate illiteracy among the foreign-born employees. The following course of study is given to these day-time factory classes:

- | | |
|---|--|
| <p>I. English language:</p> <ol style="list-style-type: none"> 1. Reading. 2. Spelling. 3. Writing. 4. Geography. 5. Methods of communication— <ol style="list-style-type: none"> a. Correspondence— <ol style="list-style-type: none"> (a) Business letters. (b) Social letters. (c) Post-office regulations. b. Telephoning. c. Telegraphy. <p>II. Hygiene:</p> <ol style="list-style-type: none"> 1. Personal cleanliness. 2. Physical culture (gymnastics). 3. Food (nutritive value). 4. First aid to injured. <p>III. Civics:</p> <ol style="list-style-type: none"> 1. Systems of government. <ol style="list-style-type: none"> a. Merits of democratic government. b. Patriotism. c. Citizenship. | <ol style="list-style-type: none"> 2. History. <ol style="list-style-type: none"> a. Origin of legal holidays. b. Lives of statesmen. <p>IV. Mathematics:</p> <ol style="list-style-type: none"> 1. Four fundamental operations in arithmetic. 2. Tables of weights and measures. 3. Money (bills and currency). 4. Work reports. 5. Personal-expense accounts. 6. Bank accounts. <p>V. Practical application of language:</p> <p>Evolution of an undergarment.</p> <ol style="list-style-type: none"> a. Growth of cotton plant. b. Manufacture. <ol style="list-style-type: none"> (a) Spinning operation. (b) Bleaching operation. c. Shipping. <p>VI. General information:</p> <p>Alphabet as a guide to common things.</p> <ol style="list-style-type: none"> a. Advertisements. b. Dictionary. c. Directory. |
|---|--|

Noon-hour lectures.—In addition to the instruction given in the day-time factory classes, which is thoroughly practical and closely correlated to the life and the work of the employees, illustrated lec-

tures of an educational and recreative character are furnished to the employees during the noon hour. During the past year there have been lectures on such subjects as the "Panama Canal," "California," "Wonders of New York," "Meaning of the Dance," and fire prevention. There have also been vocal music, violin, and graphophone recitals.

SERVICE INSTRUCTION OF THE CITY OF NEW YORK.

POLICE SERVICE INSTRUCTION.

1. *Introduction.*—Until a comparatively recent date police recruits in New York received no formal instruction other than catechetical instruction in the rules and regulations of the department in the police school for recruits.¹

Commissioner Arthur Woods in 1914 reorganized the school for recruits as the New York Police Training School and placed in charge of this school Inspector Cornelius Cahalane, who is regarded as one of the ablest police instructors in this country. The inspector has planned and developed the curriculum of the training school with a view to training and fitting the 11,000 members of the uniformed force in the performance of their duties. Every rank in the department must attend the school at some time during the year for the purpose of receiving instruction in the duties of that rank.

2. *Course for probationers*—

The probationers are assigned to the training school for three months, during which time they are instructed in the ordinances of the city, rules and regulations of the department, laws of the State, and usages and customs of the department. They are taught in the school of the soldier to drill, wrestle, box, scale ladders, and are given exercises for the care of the feet. Each probationer is taught the care and use of firearms, an hour and a half each week being devoted to the subject. Those who can not swim are given this instruction in the swimming pool and, when the weather permits, in the New York Harbor. Every man is taught to ride a bicycle and a motorcycle. They are taught the distinctive characteristics of the various makes of motor vehicles so that they may be able to identify them.

To test their efficiency and their adaptability to police work they are given oral and written examinations every two weeks on subjects which have been under discussion.

After the probationers leave the school and before they end their probation they are required to report to the training school one day each week, where their instruction is continued.

¹ Police administration, p. 106.

3. *Practical instruction.*—While attending the New York police training school recruits receive the following practical instruction:

(a) At night they are assigned to a busy precinct and are required to accompany the patrolman assigned to house duty on all cases requiring police attention.

(b) On each Saturday and Sunday night they are assigned to patrol duty with a superior officer, who instructs them in the manner of performing patrol and the customs and usages of a patrolman.

(c) Several times during the course they are assigned in pairs on busy streets for the purpose of observation; they are visited by an instructor to whom they report violations of law observed by them, conditions requiring police attention, and places to be investigated with reference to their licenses.

(d) Lectures on first aid to the injured are given by police surgeons.

(e) Lectures and practical demonstrations on the importance of preserving finger impressions and on descriptive portrait identifications are given by officers of the detective bureau.

(f) They are sent out on the street to obtain cases for presentation at moot courts and are also assigned several times during their course to visit the day and the night courts to observe the manner of arraiging prisoners and presenting evidence.

(g) Each morning they attend the line-up of arrested criminals at headquarters and the lectures by detectives specializing in particular crimes.

4. *Physical instruction.*—Each recruit in the New York police training school devotes one and one-half hours each day to physical instruction, which includes the following:

(a) The setting-up exercises and the school of the soldier of the United States Army.

(b) The most approved methods of handling prisoners humanely and breaking holds of prisoners by means of the American and the Japanese methods of wrestling.

(c) Manner of scaling fire-escape ladders from sidewalk and of carrying unconscious or dead persons up and down ladders.

(d) Each recruit is given one hour of instruction each week in swimming and in rescuing drowning persons.

(e) Each recruit is instructed in the care and use of revolvers at a rifle range in police headquarters and is given during his course 20 rounds of five shots at a target, with 4-inch bull's-eye at 15 yards' distance.

5. *Mental subjects.*—The curriculum of the New York training school consists of the following subjects, which have been arranged

in the order of their importance and the amount of time devoted to each :

- | | |
|---------------------------------|-------------------------------|
| a. Report making. | l. Felonies and misdemeanors. |
| b. Traffic and animals. | m. Children. |
| c. Arrests. | n. Patrol. |
| d. Sanitary code and nuisances. | o. Disorderly conduct. |
| e. Burglary. | p. Assault and weapons. |
| f. Crime classification. | q. Court procedure. |
| g. Robbery and larceny. | r. General ordinances. |
| h. Homicide. | s. Malicious mischief. |
| i. Public morals. | t. Election law. |
| j. Observation. | u. Deportment. |
| k. Fires and accidents. | v. Sabbath law. |

6. *Courses for officers.*

Sergeants and lieutenants on the list for promotion are brought to the training school, where they remain for two weeks to receive practical instruction in the duties of the rank to which they aspire.

Once each year every sergeant and lieutenant in the department is relieved from all other duty and brought to the training school, where he receives instruction in the laws and ordinances, rules and regulations, and customs and usages of the department, so that police work throughout the city may be kept uniform.

7. *Other courses.*—The training school also offers special courses of instruction to patrolmen who wish to qualify for assignment to the traffic division, to those who wish to become motor cycle men, to detectives, to those who wish to receive instruction in revolver shooting or to qualify as marksmen, and to those who want physical training, instruction in the humane handling of prisoners, the most efficient methods of self defense or the principles of first aid to the injured.

The director of the training school also edits the monthly Police Bulletin, which is distributed to each member of the force and which seeks to give instruction on subjects of timely interest in the field of police administration, and Inspector Cahalane has also organized a course of study for the large number of patrolmen who compete every fourth year in the competitive civil service examinations for promotion to the rank of sergeant. This instruction is given to the patrolmen throughout the year during their time off in station houses throughout the city and covers systematically and thoroughly the four subjects of the civil service examination—the laws and ordinances of the city, the rules and regulations of the department, problems of police administration and the writing of a report on an assigned police subject.

SERVICE INSTRUCTION OF FIRE DEPARTMENT.

1. *Introduction.*—Service instruction is given to members of the uniformed force of the New York fire department by the fire college. This college was established by General Orders No. 72, dated December 28, 1910. The purpose of this college is to disseminate knowledge of fire fighting, to establish and maintain the highest professional standards, and to afford men starting in the profession of fire fighting the advantage of the experience of men who have devoted their lives to this profession.

The fire college is administered subject to the control of the fire commissioner by the fire college board, of which the chief of department is president. At the conclusion of each course of instruction, the fire college board holds examinations and reports to the commissioner the names of those who have successfully completed the course to the satisfaction of the board. The board also makes to the commissioner from time to time recommendations for increasing the efficiency of the department and of the college.

The New York fire college consists of the four following schools: (1) Officers' school; (2) engineers' school; (3) probationary firemen's school; (4) company school.

The fire college maintains courses in the following subjects: (1) General fire fighting; (2) use of apparatus and tools; (3) engines and boilers; (4) use of high-pressure systems; (5) marine fires; (6) care of horses; (7) care of hose; (8) sapping and mining; (9) high tension electric currents; (10) combustibles and explosives; (11) gasoline motor engineering; (12) fire-alarm telegraph (including auxiliary systems); (13) auxiliary fire appliances; (14) first aid to injured; (15) discipline and administration.

2. *Officers' school.*—All officers of the department, except members of the fire college, and all engineers and firemen who are eligible for promotion to the rank of assistant foremen, shall be required to attend the officers' school under such rules and regulations as may from time to time be established by the board.

In so far as practicable no officers, or engineers, or firemen will be promoted unless they have successfully concluded this course of instruction to the satisfaction of the board.

Instruction in this school will be given by section. Sections will consist of 25 members, and will be announced from time to time in special orders of the department. Sections will be required to attend three times a week from 10 a. m. to 1 p. m. for a period of six weeks. Two sections will be under instruction at the same time on alternate days. On sections completing the course, new sections will be formed.

The subjects taught in the officers' school are highly technical. The courses of instruction deal principally with the strategy or

deployment of apparatus at fires; the construction of buildings, shafts, and stairways; conditions encountered at fires, such as back drafts and explosions caused by the storage of heat; chemistry in its relation to fires; cotton smoke, wood smoke, jute, acids, etc.; the effects of imperfect combustion, and the ventilation of buildings.

3. *Engineers' school.*—All engineers will be required to attend this school. Firemen of the first and second grades upon their own application, approved by the board, will be granted permission to attend this school. In so far as practicable, no fireman will be promoted to the grade of engineer unless he has successfully completed this course to the satisfaction of the board.

The course of instruction in this school will be limited to an extended course in engines and boilers and gasoline-motor engineering, including the technical construction, care, and operation of steam and motor engines.

4. *Probationary firemen's school.*—All probationary firemen will be required to attend this school for a period of at least 30 days upon their appointment as probationary firemen. The instruction in this school shall be limited to practical instruction in the use of tools, scaling ladders and other life-saving appliances, and elementary instruction in first aid to the injured.

No probationary fireman will be appointed who has not completed this course to the satisfaction of the board.

5. *Company school.*—All companies will be required to attend this school, with their entire complement of officers and men, at such time and place as the board may from time to time direct. The course of instruction in this school will include use of apparatus and tools, and for engine companies will also include engines and boilers.

The instruction in this school consists of the performance, under direction, guidance, and criticism of evolutions covering the actual work performed at fires.

At the end of the instruction each company is required to perform the following 20 evolutions, and a record is kept of the time required for each evolution:

EVOLUTIONS USED IN COMPANY SCHOOL.

No. 1. Hoist line to roof outside of building, make line fast under cornice and on roof with approved knots.

No. 2. Remove burst length from line between fourth floor and roof and between fourth floor and street; replace with new lengths.

No. 3. Stretch two 3-inch lines from high-pressure hydrant and connect to standpipe; fire on sixth floor.

No. 4. Stretch 3-inch line from high-pressure hydrant, connect to standpipe floor valve inside of building; outside connection is out of order.

No. 5. Stretch three lines and make connections to turret pipe on hose wagon and operate same with proper size nozzle.

No. 6. Stretch two lines, connect to rail pipes on hose wagon and operate with proper size nozzles.

No. 7. Stretch $3\frac{1}{4}$ -inch line from fireboat and connect to high-pressure hydrant.

No. 8. Stretch $3\frac{1}{4}$ -inch line from high-pressure hydrant and connect to water tower.

No. 9. Siamese two $2\frac{1}{2}$ -inch lines with one 3-inch lead line, put on Perfection pipe holder and proper size nozzle.

No. 10. Stretch in as many $2\frac{1}{2}$ -inch lines as possible to lead out with one $3\frac{1}{4}$ -inch line; put on Eureka pipe holder and proper size nozzle.

No. 11. Stretch $3\frac{1}{4}$ -inch line with three $2\frac{1}{2}$ -inch leading lines which can be controlled independently.

No. 12. Stretch 3-inch line, put on Paradox pipe holder, with proper size nozzle.

No. 13. Stretch 3-inch line and put on street pipe and stick, with proper size nozzle.

No. 14. Stretch line by ladder to third floor and place line in proper position to operate through window, and fasten with ladder strap.

No. 15. Stretch lines and make connections to cellar pipe, subcellar pipe, Baker pipe, Hart pipe, and distributors, and operate same.

No. 16. Make proper connection to take suction, and place fresh-water feed in service at fire.

No. 17. Hoist 35-foot ladder to roof, and lower same to yard.

No. 18. Raise and lower 35-foot ladder.

No. 19. Raise and operate aerial ladder.

No. 20. Discharge life gun, and throw line to roof.

On December 6, 1915, Engine Co. No. 20, consisting of 2 officers and 13 men, succeeded in performing these 20 evolutions in 17 minutes and 45 seconds, as follows:

Engine Co. 20, 2 officers and 13 men.

December 6, 1915.

Movement.	Time.	Movement.	Time.
No. 1.....	3. 02	No. 12.....	. 23
No. 2.....	. 51	No. 13.....	. 23
No. 3.....	1. 01	No. 14.....	. 38
No. 4.....	. 48	No. 15.....	. 28
No. 5.....	. 40	No. 16.....	. 33
No. 6.....	. 30	No. 17.....	2. 18
No. 7.....	. 46	No. 18.....	. 37
No. 8.....	. 43	No. 19.....	1. 04
No. 9.....	. 28	No. 20.....	1. 12
No. 10.....	. 57		
No. 11.....	. 25		17. 45

SERVICE INSTRUCTION OF STREET CLEANING DEPARTMENT.

1. *Introduction.*—The formulation of service instruction for the employees of the street cleaning department presented many points of difficulty, because the work of these employees is largely manual in character; at has always been unstandardized, and many of the employees are illiterate. In the system of service instruction which was installed under the direction of Commissioner John T. Fetherston each of the manual operations was standardized and a leaflet of

instructions on these standardized operations published for the information of the officers of the department. It was made the duty of the officers to impart this information to the men under their charge in accordance with the following order of the commissioner:

Employees must be properly trained to handle the tools and perform the work strictly in accordance with these instructions.

Officers will be held directly responsible for instructing the men daily at the section stations, stables and on the work, repeating the instructions until the definitions become second nature to the employees.

J. T. FETTERSTON, *Commissioner*.

May 1, 1915.

2. *Formulation of standard methods.*—The service instruction of the street cleaning department is based upon the standard methods for performing each routine operation which were formulated by a committee of the ablest and most experienced officers of the department appointed by the commissioner for that purpose. After having been revised and approved by the commissioner, these standard methods were published in a series of pamphlets and promulgated to the uniformed force. Pamphlets were prepared on the following subjects:

- (1) Definition of terms for department employees.
- (2) Orders on standard methods for hand sweeping.
- (3) Orders on standard methods for hand flushing.
- (4) Orders on standard methods for litter.
- (5) Orders on standard methods for refuse collection.
- (6) Orders on standard methods for rotary sweeping machines.
- (7) Orders on standard methods for squeegees.
- (8) Sick horses: How to prevent; how to tell; and what to do.
- (9) Orders and instructions for contract snow removal.
- (10) Regulations and instructions for the snow fighting force.
- (11) Regulations and instructions governing keeping of time records.
- (12) Standard orders for seizing incumbrances.
- (13) Shop regulations, orders and instructions.

DETAILED INSTRUCTIONS FOR FLUSHING GANGS (TWO-MAN GANGS).

Take equipment to route assigned by officer at time specified. Look over route, and be sure that there is no litter or other heavy material on the street. Coil hose on carrier so that it will uncoil easily. Have nozzle end on top. Start to unreel hose at a point 100 feet before you get to first hydrant, if using two lengths, or 150 feet with three lengths, etc.

Nozzle man.—Take off nozzle end and hold it.

Hydrant man.—Drag carrier to hydrant, unreeling hose as you go. Put carrier on sidewalk, 10 feet from hydrant toward nozzle, out of the way of traffic. Take off hydrant cap. Pick up end of hose; throw as much of it into gutter or

on sidewalk as possible. Couple hose to hydrant tightly. Always make sure a washer is in coupling to prevent leakage. Keep kinks out of hose. Put hydrant key on nut at top of hydrant and look to nozzle man for signal.

Nozzle man.—When hydrant man is connecting hose to hydrant, straighten out your end of hose. Put it in gutter, near curb, or on sidewalk. Pick up nozzle, take a position in the middle of street as far from hydrant as hose will reach. Open shut-off key on nozzle. Give signal to hydrant man to turn on water.

Hydrant man.—Turn hydrant key to right, the way hands of a clock move. Turn key slowly; if it sticks so you can not open it, leave hydrant alone and report it to foreman. (The hydrant valve stem can be easily broken if forced too much. Turning on water too suddenly may damage water system or throw nozzle man off his feet.) When water is turned on, stop any spraying from hydrant or hose couplings onto sidewalk. Put in a new washer or use spray shield over hydrant nozzle.

Go behind nozzle man and help him. When moving pick up hose in loop and take the weight off nozzle man; keep all the hose you can off the ground when moving forward.

Nozzle man.—Be sure to open a shut-off nozzle before water is turned on, so air can escape freely. Direct water toward pavement until stream has become steady. Start spraying on part of street farthest from hydrant and work toward hydrant by turning in your place, sprinkling the whole pavement as far as stream will reach, unless wet by rain or sprinkling cart. Do this without changing first position. (This spraying softens hardened refuse that sticks to pavement.) Use as little water as possible doing this.

Start on part first sprayed and flush. Follow line of spraying to let dust soak as long as possible. Direct stream against pavement to strike it about 6 feet away. Wash pavement from center of roadway to curb. Swing stream back and forth, raising it to follow mud wave at all times. Drive everything to gutter. Move so that you can wash it there. When finished with a section of street, move ahead and take another.

Always spray as far ahead as you can before flushing a new section. Work close to yourself when flushing. Then work as far as stream will do effective cleaning. Continue this way until limit of hose is reached. When nearly finished, signal hydrant man to go to hydrant. When finished, signal to shut off water.

Hydrant man.—Go to hydrant and shut off water when signaled. In shutting off hydrant, do not hurry. Quick shutting off of hydrant is dangerous and unnecessary. Disconnect hose and throw the end on ground to allow it to drain.

Look into hydrant nozzle and see if hydrant is draining properly. If hydrant is not shut off, something may be under valve. Open hydrant a few turns to wash material out. Then shut it again. Try this two or three times, and if you can not shut off water or the hydrant does not drain properly, notify foreman on his next round or when you go to section station.

Never use too much force; a strong man will twist the stem. If hydrant is draining properly, screw cap on nozzle. Help nozzle man coil hose. Drag carrier toward next hydrant on route. In winter always pump out hydrant if it does not drain quickly, and throw into it a handful of salt to prevent freezing.

Nozzle man.—When water is shut off, put nozzle on ground where it will not be run over by traffic; go to the hydrant end of hose and help coil it on carrier. When reeled on carrier, then go to proper distance from next hydrant and repeat same operations over again.

Always keep stream behind dust at all times and work it as fast as possible toward the gutter. Flush with grain of rough block pavement to clean out crevices. Flush with the grade of streets at all times, no matter how slight, unless otherwise ordered. If possible, flush with wind, so stream will not turn to spray before it strikes pavement. When using shut-off nozzle never let water run unless you are working with it. Shut off slowly. Use shut-off when moving ahead or when blocked by traffic.

When about finished with flushing, before going to section station, drain hose thoroughly by lifting it, beginning at the middle, and each man working toward each end of hose. Be sure all your equipment is on carriage before turning in at section station. Notify foreman if anything is missing or injured.

DON'T'S.

1. Don't waste water.
2. Don't flush dirt into sewer catch basins.
3. Don't forget to keep stream behind dust at all times.
4. Don't forget to close hydrants after using them.
5. Don't use too much force to open hydrants.
6. Don't forget to flush with the grain of rough block pavement to clean out crevices.
7. Don't forget to stop spray from hydrant, hose coupling, or break in hose. Use spray shields.
8. Don't forget to open a shut-off nozzle before water is turned on.
9. Don't turn on water too suddenly.
10. Don't let too much hose drag when moving forward.
11. Don't forget to keep hose and carrier out of way of traffic.
12. Don't forget to shut off nozzle when blocked by traffic; when horses become frightened; when not working with it.
13. Don't forget to report damaged or poor hydrants and depressions in pavement promptly to foreman.
14. Don't forget to drain hose after finishing your work.
15. Don't forget to keep moving while using the water.

3. *Regulations.*—In addition to publishing pamphlets containing the standard methods for performing each of the routine operations and requiring that the men be instructed by their officers in these standard methods in a school for recruits, in the section stations and on the work the following additional pamphlets have been promulgated to the force as a part of the service instruction system:

(1) Laws and ordinances relative to the cleaning of streets and sidewalks and the disposal of refuse [20 pp.].

(2) Duties and responsibilities of medical examiners in sickness and injuries [8 pp.].

(3) Duties and responsibilities of chief veterinarian and veterinarians [8 pp.].

(4) Code of discipline [11 pp.].

SERVICE INSTRUCTION FOR CLERICAL EMPLOYEES.

1. *New York University.*—The first attempt to furnish service instruction to the clerical municipal employees of New York was made by New York University in 1914. Extra-mural courses of collegiate

rank were planned to meet the special needs of these employees and were given in the Municipal Building in which the city departments are located. These courses of instruction were given from 4 p. m. to 6 p. m., so that one-half of the instruction was given on the city's time from 4 p. m. to 5 p. m. and one-half on the employees' time from 5 p. m. to 6 p. m. A charge was made for tuition.

Courses of study were offered in stenography, typewriting, secretarial methods, civil government, accounting, engineering, mathematics, and other similar subjects.

During the year 1915 the number of the courses was increased, and all of the courses were given on the employees' time from 5 p. m. to 7 p. m.. Fees were again charged for tuition.

2. *College of City of New York.*—In 1916 Mayor John Purroy Mitchell appointed a committee of prominent merchants and manufacturers of this city to make a careful study of the training of men and women for the municipal service. President Mezes, of the College of the City of New York, and Dr. Henry Moskowitz, president of the New York Municipal Civil Service Commission, were made members of this committee, the province of which included not only the subjects of service instruction for those already in the municipal service, but also the training of men and women for admission to the municipal service.

This committee held a number of important conferences and, largely through the cooperation and vital interest of Dr. Moskowitz, succeeded in developing a comprehensive system of service instruction for municipal employees.

3. *Subcollegiate courses.*—For the large number of clerical and subclerical employees, who are seeking advancement, a number of courses of instruction are being given in the Municipal Building without charge for tuition and without expense of any kind to the employees. These courses are furthermore definitely correlated with the civil-service tests in which these employees must qualify for advancement in salary and for promotion in rank. The registration for this instruction, which is being given wholly on the employees' time after 5 p. m., has been so large that, although liberal provision had been made, it was found necessary to turn away more employees than could be accommodated.

For the lowest grade of clerks, courses in stenography and courses in typewriting were provided. For stenographers, courses in advanced English and speed classes in stenography were organized. Instruction in arithmetic was offered to the clerks, and courses of study in algebra and geometry were given to those seeking to enter the engineering profession.

4. *Clerical courses.*—In the typewriting class instruction was given to office boys and junior clerks in the touch system of typewriting.

The curriculum was that usually found in an elementary class in typewriting, and the instruction was given by an efficient instructor of many years of experience in the public high schools. The elementary stenography class afforded an opportunity to clerks to obtain instruction in the principles of Isaac Pitman stenography.

The formulation of the courses of instruction in advanced stenography and in advanced English required more care and skill in planning. Both of these classes were intended primarily for the benefit of the stenographers in the city service. The advanced stenography class was divided into two sections, to one of which dictation was given at the rate of 50 words a minute, and to the other at the rate of 100 words a minute. Gradually the rate of speed of each section was increased by the instructor as the proficiency of the class seemed to warrant it. The plan of instruction was to give a dictation to one section, and permit the members of that section to study their notes while the instructor dictated to the second section. Next, the members of the first section read back their notes to the instructor, who placed the most important outlines on the blackboard, and explained them in detail to the class. The same method of instruction was followed with the second section.

5. *Instruction in English.*—Unusual skill was shown by the instructor in English, who was also an experienced public high-school teacher, in the formulation of his courses. On the first night of each class he requested the pupils to write a letter on what instruction they desired. This letter was corrected and graded by the instructor. Pupils receiving less than 7 points out of a maximum of 10 were placed in the elementary class, and the remainder were placed in the advanced class. Each class was given instruction in English composition by means of lectures, demonstrations, classroom themes, and an optional daily home-work theme. The subject matter of the themes and of the classroom recitations was correlated with the daily duties and the civil-service requirements of the employees, and in this way the instruction was made more concretely valuable.

6. *Collegiate courses.*—For those municipal employees desiring instruction of collegiate rank the entire curriculum of the College of the City of New York in its evening session was thrown open, and in addition special courses of instruction in municipal accounting and in engineering were planned and offered. Most of these courses were given after 7 p. m. in the college buildings. As this college is supported by public funds, all of its courses are free to those men who are able to meet its entrance requirements. Municipal employees who are unable to meet these requirements because of lack of secondary education, are admitted upon payment of a small fee.

SERVICE INSTRUCTION IN PHYSICAL EDUCATION.

RECREATION FACILITIES.

1. *Introduction.*—A stenographer who combined the ability and efficiency of the twentieth-century business woman with the delicate charm of the nineteenth-century girl asked advice regarding courses of instruction in the evening—which would be of most value to her? She was told that after spending the day in the office engaged in mental activities under high nervous tension she was in greater need of physical activities possessing recreative features than of additional mental activities. It was pointed out to her that she had gained by experience a more comprehensive grasp of the subjects usually taught to stenographers than she could ever expect to obtain from theoretical evening courses in business English, secretarial duties, and the like.

The suggestion that she join a class in folk dancing, which would give her the physical exercise and recreation which would be of greater benefit to her, appealed to her sound business judgment. Inquiry of the colleges and universities of the city revealed the fact that none of them offered late afternoon or evening classes in folk dancing. Their classes in folk dancing, intended primarily for college students and public-school teachers, were held in the early afternoon.

2. *Dancing class for women.*—A suggestion that the stenographers be permitted to organize a dancing class in the evening in one of the large rooms of the city office building was met by the objection that such a use of the building might be considered improper. A further suggestion that a dance expert be employed to instruct the stenographers was discouraged on the ground that it would savor of commercialism. Eventually, however, it was possible to organize for the stenographers the educational and recreative activities which were considered desirable for their personal welfare and their business efficiency.

Through the cooperation of Prof. Thomas D. Wood, of the department of physical education of Columbia University, there was secured as instructor for the class a postgraduate student who consented to teach the class for the experience which it gave her. Through the cooperation of the secretary of the public recreation commission of the city, the use of one of the city's gymnasiums was secured for one hour a week in the evening.

The ability, tact, and winsome personality of the teacher, who was a Vassar graduate, with excellent training in folk dancing at Columbia, won the admiration of the stenographers. The complete freedom and relaxation which they enjoyed during this hour was a novel and most pleasurable sensation. The return of a healthy, ruddy

color to cheeks which had been pale from confinement in the office, and the transformation of the careworn faces of the business women into fresh, radiant, buoyant girlish expressions, were rich compensation for the efforts expended in organizing this class.

3. *Class for men.*—As soon as this class had been fully established the young men employed in the building requested permission to join it. It was not deemed advisable to admit them because their admission would have necessitated the substitution by the young women of the formalities of the ball room for the freedom of the playground. Yet the request of the young men for recreative opportunities was a reasonable one which was not to be denied. Through the cooperation of Joseph Lee, supervisor of recreation of the department of parks, the services of a competent gymnasium teacher were obtained, who taught these young men a setting-up drill one hour a week in one of the city's gymnasia near the Municipal Building. Through the cooperation of the United States Volunteer Life Saving Corps, which is a department of the city government, the services of a swimming instructor were obtained, who taught these young men swimming and diving in the pool of one of the city's free baths during the remainder of this hour each week. It was found that swimming and light gymnastics were as popular among the men as folk dancing and social dancing were among the women. The light gymnastics and the folk dancing furnished the more valuable physical exercise in each case and the swimming and the social dancing furnished the larger opportunities for recreation and relaxation.

4. *Swimming classes.*—At the beginning of the summer the class in dancing was discontinued, owing to the inability of the instructor to continue this work. The members of the class formed a swimming class for the summer months, and this class was given the exclusive use of two of the city's swimming pools for one hour a week from 5 to 6 o'clock. Through the cooperation of the United States Volunteer Life Saving Corps, two competent women instructors were obtained, of whom one devoted her time to teaching those young women to swim who had not yet mastered this art, and the other spent her time in teaching advanced strokes to those who could swim. About 200 hundred young women enrolled for this work and received an opportunity to learn to swim, and facilities for refreshing relaxation after the day's work in the office in the hot months of June, July, and August, without any expense or outlay of any kind other than that involved in the purchase of the inexpensive one-piece bathing suit which all patrons of the city's pools are required to wear.

5. *Social dancing.*—During the second winter two classes in social dancing were organized, one for women and the other for men. Ex-

pert instructors for each class were furnished by Joseph Lee, supervisor of recreation of the department of parks, and an invitation was extended to the employees of each of the 57 municipal departments to avail themselves of this instruction. The registration was even larger than during the first year, and by concentrating the instruction on social dancing and omitting the folk dancing and the calisthenics the instructors were able to make each student proficient in several dances before the end of the course in the spring.

At the beginning of the summer each of the dancing classes was again turned into a swimming class. More than 250 women and more than 200 men enrolled in these swimming classes. Furthermore, when more than 1,000 employees of the Metropolitan Life Insurance Co. asked permission to join these swimming classes, it was found necessary to organize separate classes for their benefit. Miss Maud Osborn, of the United States Volunteer Life Saving Corps, Miss Lillian Glassford, of the People's Bath, and Robert Blogg, of the United States Volunteer Life Saving Corps, instructed these classes during the second summer and succeeded in making every student who attended regularly fully able to take care of himself in the water.

6. *Swimming certificates.*—At the end of the summer, examinations were conducted to test the proficiency of the students. There was a simple test for the beginners and a more difficult test for the advanced students. Furthermore, since some swimmers lack confidence in swimming in their street clothes, and since an ability to do so without panic is a most valuable asset in an emergency, an opportunity was given the students to take these tests in their street clothes.

Certificates of proficiency of four grades, signed by me and by the president of the Borough of Manhattan of the city of New York, with whose cordial cooperation these courses of instruction were organized, were presented by the borough president personally to each employee who succeeded in qualifying in these tests.

7. *Gymnastic instruction.*—For the third winter the curriculum of the dancing classes for men and for women was greatly extended. In addition to offering to the employees instruction in social dancing, an opportunity was also afforded them to obtain instruction in the elementary principles of self-defense, in gymnastic work possessing practical value in emergencies, such as ladder climbing, vaulting, etc., and in simple calisthenics definitely correlated with daily activities.

The police commissioner cooperated by giving male and female instructors an opportunity to take the complete course in self-defense in the New York police training school, and the facilities

of the swimming class for men were extended to the members of the uniformed forces of the police and the fire departments.

8. *Lectures.*—In addition to the instruction in dancing, swimming, gymnastics, calisthenics, and self-defense, there were organized several courses of lectures on city government, delivered by the commissioners of the 18 most important municipal departments, and on personal hygiene by eminent specialists in their respective fields and financial talks by experts in the world of finance. These lectures, which were generally delivered during the noon recess, were well attended and gave the employees much authoritative information of distinct practical value.



1917.

(Continued from p. 2 of cover.)

- No. 1. Monthly record of current educational publications, January, 1917.
- No. 3. Pine-needle basketry in schools. Wm. C. A. Hammel.
- No. 4. Secondary schools in Russia. W. S. Jesien.
- No. 5. Report of an inquiry into the administration and support of the Colorado school system.
- No. 6. Educative and economic possibilities of school-directed home gardening in Richmond, Ind.
- No. 7. Monthly record of current educational publications, February, 1917.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 35

ADULT ILLITERACY

By WINTHROP TALBOT



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

**ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
15 CENTS PER COPY**

CONTENTS.

	Page.
I. Extent of illiteracy.....	5
Definitions.....	5
Illiteracy and ignorance.....	5
Number of illiterates.....	6
Classes of illiterates.....	7
The black belt of the North.....	9
Reduction of illiteracy.....	10
Table 1.—Percentage decrease of illiteracy in 20 years, 1890–1910.....	10
Table 2.—Changes during 20 years in number of illiterates in the population 10 years of age and over.....	11
Table 3.—Percentage of illiteracy, by States, 1910.....	12
Table 4.—Percentage of decrease of illiteracy from 1900 to 1910, percentage of increase of population from 1900 to 1910, with number and percentage of illiterates and total population.....	13
Table 5.—Rank of States by illiteracy in 1910, decrease of illiteracy and percentage 1890–1910, comparative chart showing percentage of illiteracy for 1910, 1900, and 1890.....	14
Rural and urban illiteracy.....	16
Illiterate males of voting age.....	17
Illiteracy by age groups.....	17
Illiteracy by sex.....	18
II. Illiteracy of immigrants.....	18
Public policy toward immigrant illiteracy.....	20
Value and bearing of illiteracy statistics.....	23
Basis of statistics of immigrant illiteracy.....	23
Number of illiterates and percentage of illiteracy among foreign-born....	24
Classification by census periods.....	25
Table 6.—Illiterate immigrants, by nationalities, during certain periods.	26
Classification by nationality.....	29
Illiterate immigrants by nationalities in the three periods 1900–1904, 1905–1909, 1910–1914.....	
Table 7.—Immigrants over 14 years of age and illiterates from different regions, 1900–1914.....	31
Table 8.—Immigration by nationalities, from 1900 to 1914, inclusive....	32
Table 9.—Immigrants, by nationalities, in the three periods 1900–1904, 1905–1909, 1910–1914.....	33
Distribution of foreign-born illiterates.....	33
Table 10.—Distribution of foreign-born illiterates in urban and rural population, 1910.....	34
Male and female illiterates.....	34
Illiterate foreign-born males of voting age.....	34
Literate and illiterate countries.....	34
Table 11.—Ratio of illiterate immigrants to whole number of immigrants over 14 years of age, by nationalities, 1900 to 1914, inclusive.....	35

II. Illiteracy of immigrants—Continued.	Page.
Northwestern Europe.....	35
Eastern Europe.....	35
Table 12.—Immigrants over 14 years of age and number of illiterates from certain geographical divisions.....	36
Table 13.—Immigrants over 14 years of age and number of illiterates, by nationalities, from certain geographical divisions.....	37
Slaves and nonslavs.....	38
Southern Europe.....	38
III. The workers' class.....	38
Handicapped toilers.....	38
Illiteracy and the sweatshop.....	39
Education and industrial management.....	40
Night schools for workers.....	41
Experimental class for adult workers.....	41
Workers' class for adult illiterates.....	44
Class in elementary English for foreigners at Bayonne, N. J.....	47
Statistics of recent immigrant illiteracy.....	51

ADULT ILLITERACY.

I. EXTENT OF ILLITERACY.

DEFINITIONS.

Illiterates are those who have not learned to write in any language. This is the definition on which American and most foreign statistics of illiteracy are based, because the percentage of those who can read but can not write is so small that it may be ignored. The test of writing one's name and ordinary words is simple, easily applied, definite, and practicable.

Literates are all who have had even the slightest amount of schooling. Many literates may be ignorant, but illiterates can not write even their own names, and seldom are able to read at all.

This study of illiteracy in the United States is restricted to the millions of adults who are absolutely illiterate; it makes no enumeration of other millions of near-illiterates who can only sign their names and decipher a few words with difficulty, nor does it take into account the many millions who can read and write, but seldom do.

Literacy is the first requisite for democracy. Unless means are provided for reaching the illiterate and the near-illiterate, every social problem must remain needlessly complex and slow of solution, because social and representative government rests upon an implied basis of universal ability to read and write.

ILLITERACY AND IGNORANCE.

Before analyzing illiteracy in the United States, it is important to distinguish clearly between illiteracy and ignorance, terms by no means the same, yet often used as though synonymous.

Illiteracy clearly is not ignorance. Many a man who makes an X for his signature knows more, is better equipped for citizenship, and is more fully prepared to battle with life than some who have been graduated from high school or college.

Schooling supplements but can never replace worldly wisdom and experience; nevertheless, the ability to read and write is fundamental, and lack of this equipment is such a handicap that illiteracy implies ignorance. Some ignorant persons may be illiterate, but most illiterates are ignorant.

Intelligence is still another matter. Intelligence implies mental quality, capacity, and ability; untrained, its usefulness is restricted. In an illiterate, intelligence is stunted and imperfectly applied.

NUMBER OF ILLITERATES.

It is desirable to gain a graphic idea of the extent and implications, sources and type of illiteracy in the United States, and especially to realize the facts concerning the increase of white illiteracy at the present time.

Five and a half million people in the United States over 10 years of age are illiterate, or nearly eight out of every hundred.

This is over a million more than the combined total population of Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, and California (4,447,507); or of Maine, New Hampshire, Vermont, Massachusetts, and Rhode Island (5,438,945); or of South Carolina, Georgia, and Florida (4,877,140). It outnumbers Alabama and Tennessee (4,332,882); nearly equals Maryland, Virginia, and North Carolina (5,563,245); or Louisiana and Texas (5,552,920); and rivals the State of Illinois (5,638,591).

There were more illiterates in 1910 than comprised the entire population of the United States in 1800 (5,403,383). They would more than replace the inhabitants of all towns in the United States having a population numbering between 2,500 and 5,000 (1,172 towns; population, 4,105,656).

They would nearly fill the 372 cities having between 10,000 and 25,000 (5,609,208); would overflow the 179 cities between 25,000 and 100,000 (3,241,678); and would approach the entire combined metropolitan population of Philadelphia (1,549,008), St. Louis (687,029), Boston (670,585), Cleveland (560,663), Baltimore (558,485), Pittsburgh (533,905), Detroit (465,766), and Buffalo (423,715); a total of 5,449,156.

They would nearly equal in number the present population of New York, estimated in the year 1914 at 5,583,801.

These comparisons may aid in visualizing the extent of the problem of teaching merely the elements of reading and writing to illiterates in the United States who are beyond school age and of whom over a million can speak no English.

CLASSES OF ILLITERATES.

Illiterates are classed, for convenience, as native white, foreign born, Negro, others.

Native white illiterates (1,534,272) are outnumbered by foreign-born illiterates (1,650,361) by over one hundred thousand (116,089). The total number of white illiterates—native and foreign-born com-

bined (3,184,633)—is nearly a million (956,902) more than the total number of Negro illiterates (2,227,731). Illiteracy is mainly a white man's problem, owing to the fact that the number of Negro illiterates is rapidly decreasing, whereas the number of white illiterates is increasing, due to immigration of illiterates.

Other illiterates are: Indians, 85,445, or 45.3 per cent; Chinese, 10,891, or 15.8 per cent; Japanese, 6,213, or 9.2 per cent; others, 1,250, or 39.9 per cent.

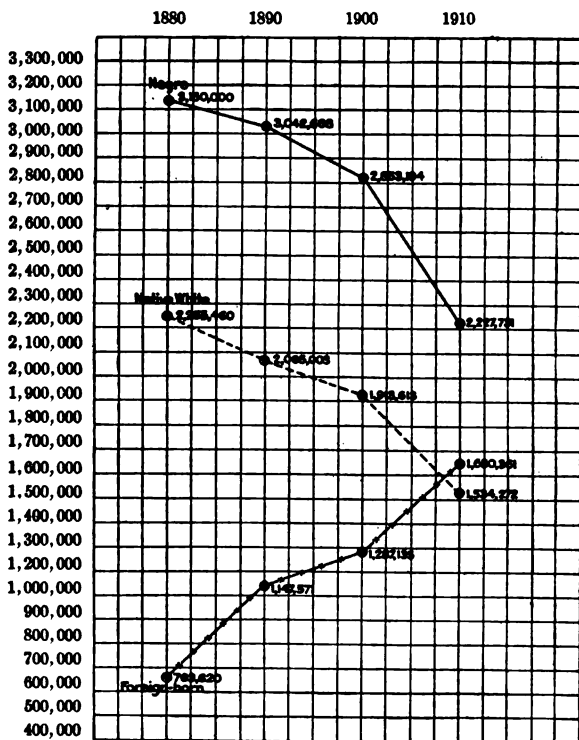


CHART 1.—Illiteracy curve, 1880-1910—Native whites; foreign-born; Negroes.

Every class of illiterates has decreased except the foreign-born illiterates; their *increase* has outbalanced the whole *decrease* of all other classes combined—native whites, Negroes, Indians, Chinese, Japanese—during the last 35 years.

In contrast with the increase of white illiterates, Negro illiterates have decreased from approximately 3,150,000 in 1880 to 2,227,731 in 1910. During the last decade, the number of Indian, Chinese, and Japanese illiterates has also decreased materially. Native-born white illiterates have decreased from 2,255,460 to 1,534,272. Since 1890 there has been a classification of native born of native parents. These have decreased from 1,890,723 to 1,378,884. Native born of foreign or mixed parentage have decreased from 174,280 to 155,388.

Since 1880 the percentage of native whites to total population has increased, and the percentage of illiteracy among them has diminished. The percentage of foreign-born to total population has increased as well as their percentage of illiteracy. The per cent of Negroes to total population has decreased, and the decrease in percentage of illiteracy among them is marked.

Percentage of illiteracy among native whites, the foreign-born, and Negroes at certain periods.

	1880	1890	1900	1910
Native whites:				
Per cent of total population.....	73.5	73.0	74.5	74.4
Per cent of illiteracy.....	9.4	6.2	4.6	3.0
Foreign born:				
Per cent of total population.....	13.1	14.5	13.4	14.5
Per cent of illiteracy.....	12.0	13.5	12.9	12.7
Negroes:				
Per cent of total population.....	13.1	11.9	11.6	10.7
Per cent of illiteracy.....	68.0	57.1	44.5	30.4

THE "BLACK BELT" OF THE NORTH.

It has long been a matter for critical comment that nearly one-fourth of the population of the Southern States is illiterate. It gives a different aspect to the situation to know that each Southern State cut its percentage of illiteracy more than 25 per cent between 1900 and 1910, and that in the South Atlantic, east South Central, and west South Central divisions, which include all the Southern States, the number of illiterates was nearly a million (938,767) less in 1910 than in 1900.

Illiteracy may be a perplexity, but is not a peril in States which are so active through public school endeavor and otherwise that they are steadily effecting wholesale reductions each decade not only in percentage but in number of illiterates. Illiteracy is chiefly a menace in those manufacturing States of the Middle Atlantic division which for 10 years—even 20 years in the State of New York—have failed to reduce their percentage of illiteracy and have increased enormously their numbers of illiterates, or, as in the case of Connecticut, have actually retrograded and increased not only in numbers of illiterates, but in percentage of illiteracy as well. The New England, Middle Atlantic, Mountain, and Pacific are the divisions which show increase in number of illiterates during the past 20 years.

The number of illiterates is steadily increasing, not in the South, but in—

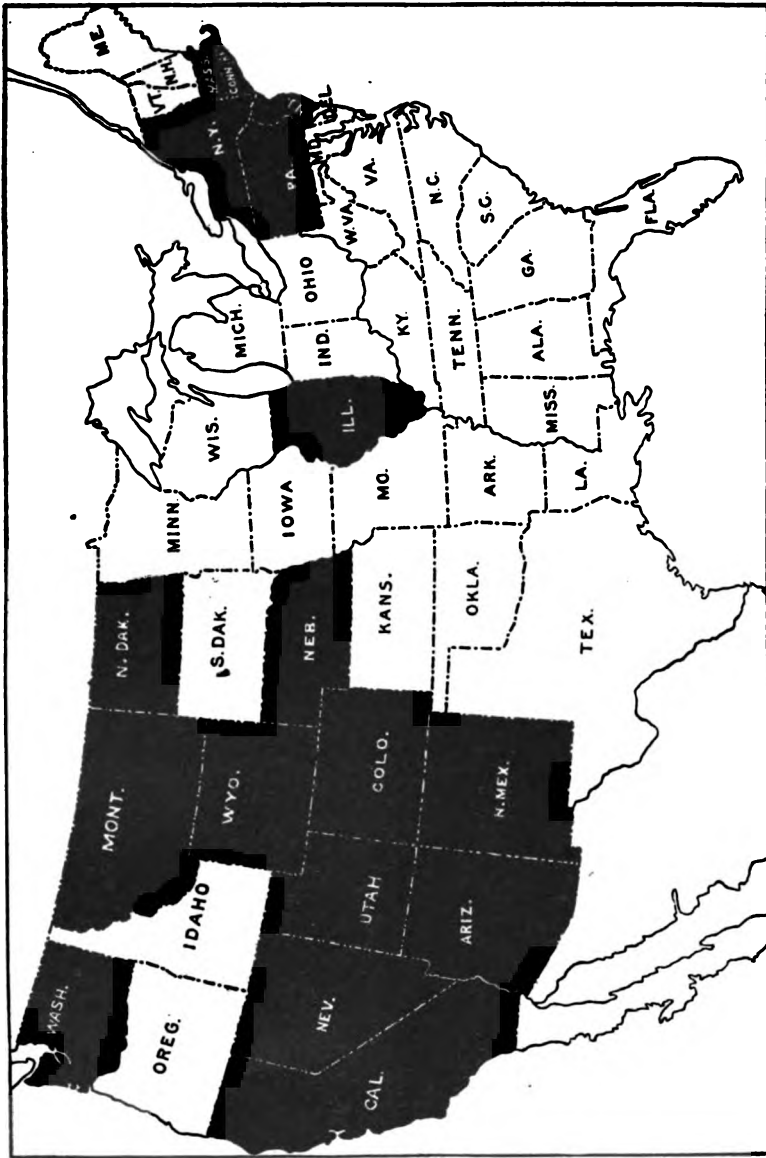
Massachusetts,
Rhode Island,
Connecticut,
New York,
New Jersey,

Pennsylvania,
Illinois,
North Dakota,
Nebraska,
Montana,

Wyoming,
Colorado,
New Mexico,
Arizona,

Utah,
Nevada,
Washington,
California,

the heaviest increase being in New England and the Middle Atlantic States. During the 20 years from 1890 to 1910 the number of illiterates in Virginia, North Carolina, South Carolina, Georgia, Kentucky,



States in black in which the whole number of illiterates increased between 1900 and 1910. In States west of the Mississippi given as black the increases are smaller than in other States.

and Florida *decreased* from 2,027,951 to 1,427,063, but in Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania the number of illiterates *increased* from 790,772 to 1,103,872.

REDUCTION OF ILLITERACY.

The fact that there are many people who can not read or write is not in itself such a menace as the fact that illiteracy is growing, remains about the same, or is not being reduced. The existing percentage of illiteracy is of far less importance than the rate of decrease of illiteracy. In the 17 States which have cut down their illiteracy 50 per cent or more in 20 years there is no menace to citizenship.

TABLE 1.—*Percentage decrease of illiteracy in 20 years, 1890-1910.*

State.	Per cent.	State.	Per cent.
District of Columbia.....	62	Mississippi.....	44
Kansas.....	60	Delaware.....	43
Wisconsin.....	58	West Virginia.....	42
Idaho.....	56	South Carolina.....	42
New Mexico.....	54	North Dakota.....	40
Maryland.....	54	Nevada.....	40
Iowa.....	53	Nebraska.....	38
Oregon.....	53	Ohio.....	38
California.....	53	Louisiana.....	36
Washington.....	52	New Hampshire.....	32
Arkansas.....	52	South Dakota.....	30
Missouri.....	52	Colorado.....	29
Florida.....	50	Illinois.....	28
Indiana.....	50	Maine.....	25
Minnesota.....	50	Rhode Island.....	21
Tennessee.....	50	Massachusetts.....	16
Virginia.....	50	New Jersey.....	16
Georgia.....	49	Pennsylvania.....	16
Texas.....	49	Montana.....	13
North Carolina.....	48	Arizona.....	10
Utah.....	46	Wyoming.....	3
Michigan.....	45	New York.....	0
Vermont.....	45	Oklahoma.....	-3
Alabama.....	44	Connecticut.....	-13
Kentucky.....	44		

The percentage of illiteracy in the United States has been lowered during 20 years from 13.3 per cent in 1890 to 10.7 per cent in 1900 and 7.7 per cent in 1910; but the number of illiterates has decreased less than 15 per cent and the number of foreign-born illiterates has increased 43 per cent.

The percentage of illiteracy in the Southern States has been reduced one-half in the last two decades, but in the Middle Atlantic States—along the Atlantic seaboard—there has been slight decrease in percentage and large increase in numbers, owing possibly to lack of realization on the part of the general public and educators of changed conditions due to the new type of foreign immigration.

The following table shows the changes in illiteracy as affecting all classes during the 20 years from 1890 to 1910:

TABLE 2.—Changes during 20 years in number of illiterates in the population 10 years of age and over.

	Year.	Per cent.	Total.	Male.	Female.
All classes.....	1910	7.7	5,516,163	2,814,950	2,701,213
	1900	10.7	6,180,069	3,011,224	3,168,845
	1890	13.3	6,324,702	3,008,222	3,316,480
White.....	1910	5.0	3,184,683	1,622,505	1,522,128
	1900	6.2	3,200,746	1,567,163	1,633,593
	1890	7.7	3,212,574	1,517,722	1,694,852
Negro.....	1910	30.4	2,227,731	1,096,000	1,131,731
	1900	44.5	2,853,184	1,371,432	1,481,762
	1890	57.1	3,042,668	1,438,923	1,603,745
Indian, Chinese, Japanese, and all other.....	1910	31.6	103,799	56,445	47,354
	1900	44.5	126,129	72,639	53,490
	1890	45.2	69,460	51,577	17,883
Native white.....	1910	3.0	1,534,272	796,065	738,217
	1900	4.6	1,913,611	955,517	958,094
	1890	6.2	2,065,003	978,408	1,086,595
Native parentage.....	1910	3.7	1,378,884	715,926	662,958
	1900	5.9	1,734,764	862,175	872,589
	1890	6.2	1,890,723	888,415	1,002,308
Foreign or mixed parentage.....	1910	1.1	155,388	80,129	75,259
	1900	1.6	178,847	93,342	85,505
	1890	2.2	174,280	89,993	84,287
Foreign-born white.....	1910	12.7	1,650,361	866,460	783,911
	1900	11.3	1,287,135	611,636	675,499
	1890	13.1	1,147,571	539,314	608,257

It is natural that in all the States where illiteracy is common the decrease each decade should be large. Decrease in illiteracy must mainly come through the public schools, although an increasingly large work must devolve upon other agencies, such as immigrant associations, the Christian and Hebrew Young Men's and Young Women's Associations, workers among the mountain whites, and such institutions as Hampton and Tuskegee among the Negroes.

Decrease of illiteracy is due not wholly to effort on the one hand and indifference on the other, though these are important factors. A State may have a great influx of illiterates and in the sum total put forth great effort to decrease illiteracy, yet the increase may be constant because of immigration, while in another State with the same degree of effort better results are attained because there is not a corresponding increase in number of illiterates coming into the State.

In Table 3 is shown the positive degree of illiteracy in each State in 1910.

TABLE 3.—*Percentage of illiteracy, by States, 1910.*

State.	Per cent of illit- eracy.	State.	Per cent of illit- eracy.
Iowa.....	1.7	New York.....	5.5
Nebraska.....	1.9	New Jersey.....	5.6
Oregon.....	1.9	Oklahoma.....	5.6
Washington.....	2.0	Pennsylvania.....	5.9
Idaho.....	2.2	Connecticut.....	6.0
Kansas.....	2.2	Nevada.....	6.7
Utah.....	2.5	Maryland.....	7.2
South Dakota.....	2.9	Rhode Island.....	7.7
Minnesota.....	3.0	Delaware.....	8.1
Indiana.....	3.1	West Virginia.....	8.3
North Dakota.....	3.1	Texas.....	9.9
Michigan.....	3.2	Kentucky.....	12.1
Ohio.....	3.2	Arkansas.....	12.6
Wisconsin.....	3.2	Tennessee.....	13.6
Wyoming.....	3.3	Florida.....	13.8
California.....	3.7	Virginia.....	15.2
Colorado.....	3.7	North Carolina.....	18.5
Illinois.....	3.7	New Mexico.....	20.2
Vermont.....	3.7	Georgia.....	20.7
Maine.....	4.1	Arizona.....	20.9
Missouri.....	4.3	Mississippi.....	22.4
New Hampshire.....	4.6	Alabama.....	22.9
Montana.....	4.8	South Carolina.....	25.7
District of Columbia.....	4.9	Louisiana.....	26.0
Massachusetts.....	5.2		

Prior to 1900 changes in illiteracy were less striking than in the decade from 1900 to 1910, owing to a more literate type of immigration.¹ For example, the State of Washington was numerically small in 1900, the population being 408,437. In 1910 there had been an increase in population of 128 per cent, to 934,332, yet at the same time there was a decrease in illiteracy of 35 per cent, the immigration being mainly from Canada, England, and countries in north-western Europe. In the State of Illinois, however, where the increase, 475,636, may be compared with the increase of 525,895 in Washington, a much smaller number were foreign-born, but the foreign-born were of a more illiterate type, and this fact would be important in affecting the decrease in percentage of illiteracy during the decade, only 11.9 per cent. New York, New Jersey, Connecticut, Pennsylvania, and other eastern manufacturing States were still more unfavorably affected by the type and amount of immigration.

¹ In Table 4, opposite the percentage of decrease of illiteracy, is given the percentage of increase in population during these 10 years.

TABLE 4.—Showing percentage of decrease of illiteracy from 1900 to 1910, percentage of increase of population from 1900 to 1910, with number and percentage of illiterates and total population.

Rank.	State.	Percent- age of de- crease in illit- eracy.	Percent- age of in- crease in popu- lation.	1910			1900		
				Number of illit- erates.	Per cent.	Popula- tion.	Number of illit- erates.	Per cent.	Popula- tion.
1	Idaho.....	52.1	107.8	5,453	2.2	249,018	5,505	4.6	119,837
2	Nevada.....	49.6	99.7	4,702	6.7	69,822	4,645	13.3	34,959
3	North Dakota.....	44.6	85.3	13,070	3.1	424,730	12,719	5.6	229,161
4	Dist. of Columbia.....	43.0	20.3	13,812	4.9	279,088	20,028	8.6	231,837
5	Oregon.....	42.7	69.2	10,504	1.9	555,631	10,686	3.3	328,791
6	South Dakota.....	42.0	50.6	12,750	2.9	443,466	14,832	5.0	294,304
7	Maryland.....	39.6	11.2	73,397	7.2	1,023,950	101,947	8.4	920,715
8	New Mexico.....	39.1	69.8	48,697	20.2	240,990	46,971	33.2	141,282
9	Arkansas.....	38.2	21.3	142,954	12.6	1,134,087	190,655	20.4	934,332
10	Florida.....	36.9	41.3	77,816	13.8	564,722	84,285	21.9	385,490
11	Vermont.....	36.2	3.6	10,806	3.7	289,128	16,247	5.8	278,943
12	Washington.....	35.4	128.5	18,416	2.0	933,556	12,740	3.1	408,437
13	North Carolina.....	35.2	17.2	291,497	18.5	1,578,595	386,251	28.7	1,346,734
14	Tennessee.....	34.3	9.4	221,071	13.6	1,621,179	306,930	20.7	1,480,948
15	Virginia.....	33.6	12.2	232,911	15.2	1,536,297	312,120	22.9	1,364,501
16	Missouri.....	32.8	9.3	111,116	4.3	2,594,600	152,844	6.4	2,371,865
17	Indiana.....	32.6	9.7	66,213	3.1	2,160,405	90,539	4.6	1,968,215
18	Alabama.....	32.6	18.1	352,710	22.9	1,541,575	443,590	34.0	1,304,703
19	Delaware.....	32.5	12.7	13,240	8.1	163,080	17,531	12.0	145,500
20	Georgia.....	32.1	19.4	389,775	20.7	1,885,111	480,420	30.5	1,577,334
21	Wisconsin.....	31.9	17.2	57,769	3.2	1,829,811	73,779	4.7	1,561,156
22	Texas.....	31.7	31.6	282,904	9.9	2,848,904	314,018	14.5	2,163,913
23	Mississippi.....	30.0	17.7	290,235	22.4	1,293,180	351,461	32.0	1,098,891
24	California.....	29.9	64.2	74,902	3.7	2,007,696	58,959	4.8	1,222,111
25	South Carolina.....	28.4	14.4	276,980	25.7	1,078,181	338,569	35.9	942,402
26	Arizona.....	27.9	66.5	32,953	20.9	157,659	27,307	29.0	94,147
27	West Virginia.....	27.2	28.8	74,866	8.3	1,221,119	80,105	11.4	958,800
28	Minnesota.....	26.8	23.2	49,368	3.0	1,628,035	52,946	4.1	1,305,657
29	Kentucky.....	26.3	8.3	208,064	12.1	1,722,644	262,954	16.5	1,589,685
30	Iowa.....	26.0	2.8	29,889	1.7	1,760,286	40,172	2.3	1,711,789
31	New Hampshire.....	25.8	4.8	16,386	4.6	354,118	21,075	6.2	337,893
32	Louisiana.....	24.6	20.5	352,179	29.0	1,213,576	381,145	38.5	990,364
33	Michigan.....	23.9	17.9	74,800	3.2	2,236,252	80,482	4.2	1,896,265
34	Montana.....	21.3	58.4	14,457	4.8	303,551	11,675	6.1	191,596
35	Kansas.....	20.6	13.9	28,968	2.2	1,321,562	32,513	2.9	1,126,033
36	Ohio.....	20.0	17.3	124,774	3.2	3,848,747	131,541	4.0	3,289,921
37	Maine.....	19.7	6.8	24,554	4.1	603,893	29,060	5.1	565,440
38	Utah.....	19.3	39.0	6,821	2.5	274,778	6,141	3.1	196,769
39	Wyoming.....	17.5	63.0	8,874	3.3	117,585	2,878	4.0	72,062
40	Nebraska.....	13.0	15.5	18,009	1.9	924,032	17,997	2.3	799,755
41	Colorado.....	11.9	50.6	23,780	3.7	640,846	17,779	4.2	425,424
42	Illinois.....	11.9	20.5	168,294	3.7	4,493,794	157,958	4.2	3,727,745
43	Massachusetts.....	11.8	20.9	141,541	5.2	2,742,634	134,043	5.9	2,267,048
44	Rhode Island.....	8.3	2.6	33,854	7.7	440,065	29,004	8.4	344,824
45	Oklahoma.....	5.3	113.3	67,567	5.6	1,197,476	67,826	12.1	561,379
46	New Jersey.....	5.0	34.9	113,502	5.6	2,027,946	86,658	5.9	1,480,498
47	Pennsylvania.....	3.2	22.9	354,290	5.9	6,007,750	299,376	6.1	4,885,379
48	New York.....	0.0	27.7	406,020	5.5	7,410,819	318,100	5.5	5,801,682
49	Connecticut.....	1.6	23.3	53,665	6.0	901,026	42,973	5.9	730,454

¹ Increase of illiteracy.

The increase in the number of illiterates is most notable in Rhode Island, Connecticut, New Jersey, New York, and Pennsylvania. There is also an increase in Illinois; a large relative increase in Montana, Colorado, Wyoming, Idaho, Washington, and Arizona; and a small relative increase in Oregon.

The positive degree of illiteracy in each State is exhibited in Table 5, which shows the rank of States by illiteracy in 1910; numbers of illiterates in 1890, 1900, and 1910; decrease of illiteracy in 1900 and 1910; per cent of decreases from 1890 to 1910; and comparisons in percentage of illiteracy and numbers of illiterates by States in 1890, 1900, and 1910.

TABLE 5.—Showing rank of States by illiteracy in 1910, decrease of illiteracy and percentage 1890-1910, with comparative chart showing percentage of illiteracy and number of illiterates for 1910, 1900, and 1890.

[Figures in the column headed with an asterisk (*) give per cent decrease in 20 years, 1890-1910.]

		1890	1900	1910	NO. OF ILLITERATES	
1	IOWA	53	23	117	2,885	
					4,072	
					52,961	
2	OREGON	53	21	19	10,504	
					10,056	
					10,103	
3	NEBRASKA	36	23	19	16,009	
					17,997	
					24,521	
4	WASHINGTON	52	21	20	18,416	
					12,740	
					11,778	
5	KANSAS	60	29	22	28,968	
					32,513	
					42,079	
6	IDAH0	56	22	25	5,463	
					5,507	
					12,25	
7	UTAH	46	29	21	6,827	
					6,141	
					8,232	
8	SOUTH DAKOTA	30	29	20	12,750	
					10,821	
					9,974	
9	MINNESOTA	50	20	20	48,366	
					52,946	
					66,037	
10	INDIANA	50	26	31	64,213	
					90,539	
					101,879	
11	NORTH DAKOTA	40	21	29	13,070	
					12,778	
					17,143	
12	WISCONSIN	56	27	32	57,769	
					73,779	
					84,743	
13	MICHIGAN	45	29	32	74,800	
					80,482	
					99,914	
14	OHIO	38	22	32	124,774	
					131,541	
					149,843	
15	WYOMING	3	22	33	3,874	
					2,878	
					1,830	
16	CALIFORNIA	52	27	37	74,902	
					104,039	
					179,002	
17	COLORADO	29	22	42	23,780	
					17,779	
					17,180	
18	ILLINOIS	28	22	37	148,294	
					137,958	
					156,634	
19	VERMONT	45	27	37	10,606	
					16,747	
					18,124	
20	MAINE	25	25	41	24,554	
					29,060	
					27,587	
21	MISSOURI	52	21	42	111,116	
					127,844	
					181,368	
22	NEW HAMPSHIRE	32	22	45	16,386	
					21,075	
					21,476	
23	MONTANA	13	25	48	14,457	
					11,675	
					5,867	
24	DISTRICT OF COLUMBIA	62	22	49	13,812	
					20,028	
					24,884	
25	MASSACHUSETTS	16	22	52	141,541	
					134,043	
					114,466	

In one typical manufacturing town in Connecticut the population is more than 50 per cent foreign-born at the present time; 10 years ago it was 15 per cent. The town is inundated with non-English-speaking people, highly illiterate, with foreign ideals and customs, and standards of a low order. This condition is general throughout the manufacturing towns of New England and the Middle Atlantic States.

The problem of adult illiteracy is ignored commonly in the manufacturing States where the relative percentage of illiteracy is small, but where the number of illiterates is great.

In New York State, of the population over 21 years of age, 6 out of every 100 can neither write nor read; in Maine and Vermont, 5; in New Hampshire, Massachusetts, and Connecticut, 6; in New Jersey, 7; in Pennsylvania, nearly 8; in Rhode Island, 9; in Delaware, 10; and little is being done to relieve the situation, which has a direct bearing on unemployment and industrial unrest.

Effective measures to reduce adult illiteracy can become possible by closer cooperation between industry and education. Industry can make it possible by allowance of time and wage to enable illiterate adult workers—who can earn usually but small wages, often because of their illiteracy and the things that go with illiteracy—to learn to read and write, and in a minimum time of 60 hours enable them to surmount their worst obstacles to progress. The public schools can provide teachers. Illiterate workers are expensive workers. There seems to be no more effective, practical, and economical way of meeting the problem of the employed adult illiterate than by means of the workers' public-school day class. By its adoption much needless industrial inefficiency and social waste may rapidly be eliminated.

RURAL AND URBAN ILLITERACY.

More than two-thirds of all illiterates are country dwellers; the percentage of illiteracy in country districts (10.1) is nearly twice that in the cities (5.1); but the decrease in illiteracy in rural communities and small towns during the decade 1900–1910 is more marked than in cities, because large numbers of illiterate foreign-born have settled in the cities, where work is obtainable immediately after landing.

Of illiterates living in the country (3,748,031), the native whites were 1,342,372; foreign-born, 477,870; Negroes, 1,834,458. Of illiterates living in towns and cities (1,768,132), the native whites were 191,900; foreign-born, 1,172,491; Negroes, 393,273. Therefore the urban problem in removing illiteracy deals mainly with foreign-born; the rural problem, with Negroes and native whites.

Foreign-born illiterates are found mainly in towns and cities of the New England States (222,030), Middle Atlantic States (582,756),

east North Central States (217,771); native white illiterates mainly in rural communities of the South Atlantic States (400,507), east South Central States (362,178), west South Central States (217,719); and Negro illiterates mainly in rural communities of the South Atlantic States (810,526), east South Central States (581,250), west South Central States (411,370).

ILLITERATE MALES OF VOTING AGE.

Two and one quarter millions (2,273,603) of the total male population of voting age (26,999,151) were illiterate, or more than 8 (8.4 per cent) out of every 100.

One-third of these illiterates (788,631) were foreign-born, although in the total population the foreign-born form less than 14 per cent.

Since 1900 the number of illiterate foreign-born males of voting age has increased over 220,000, whereas among native white males of voting age the number of illiterates has decreased by 50,000 and among Negroes of voting age over 150,000.

ILLITERACY BY AGE GROUPS.

Half the illiterate population (48.1 per cent) are between 20 and 45 years old and can be taught to read and write without difficulty, if an effort is made to reach them through their occupations. They are beyond school age, and rarely will attend night schools, owing to fatigue from labor, other duties, or indifference. Only those under 20 years of age, amounting to 16 per cent, can be reached by the schools under any present law of compulsory attendance.

The following summary shows the percentage of illiteracy at different ages to total illiteracy:

Age.	Number.	Per cent.
10-14.....	370,136	6.7
15-19.....	448,414	9.0
20-24.....	622,073	11.2
25-34.....	1,102,384	19.9
35-44.....	940,510	17.0
45-54.....	829,153	15.0
55-64.....	607,754	11.0
65 and over.....	573,799	10.4
Total.....	5,516,163	100.2

Children under 10 years of age are not classed as illiterates. Those between 10 and 14 who have not learned to write their names are properly termed illiterate, although not beyond school age; they seldom return to school; they may be defective. They form but a small per cent (6.7 per cent) of the whole number. Those between 15-19 are but 9 per cent. Thus 83.3 per cent of all illiterates are

over 20 years old and generally are earning a living, if not diseased or defective. Ordinary school opportunities are not able to satisfy their needs; special educational methods better adapted to adults are required.

ILLITERACY BY SEX.

Illiteracy is common to both sexes. Illiterate males (2,814,950) outnumber illiterate females (2,701,213) by more than one hundred thousand (113,637). This may be due to two causes: (1) Males outnumber females in the total population by 106 to 100. (2) Male immigrants outnumber female, and in the foreign-born population, many of whom are illiterate, males outnumber females by 129.2 to 100.

The percentage of illiteracy, however, in the United States as a whole, among females (7.8 per cent) is slightly greater than among males (7.6 per cent) due to the larger percentage of illiteracy among foreign-born women and Negro women.

	Male illiterates.	Female illiterates.
	<i>Per cent.</i>	<i>Per cent.</i>
Native white.....	3.1	2.9
Foreign-born.....	11.8	13.9
Negro.....	30.1	30.7

Excluding children under 10 years of age, 76 males (7.6 per cent) out of every 1,000 are illiterate; 78 females (7.8 per cent) out of every 1,000 are illiterate.

H. ILLITERACY OF IMMIGRANTS.

Illiteracy bears intimately upon many national problems. The Government of the United States is a government by representation, and its integrity and effectiveness depend upon the intelligence of all the people. Intelligence rests mainly upon easy transfer of thought and information from one person to another by the printed page. Therefore any material increase in the number of those who can not read affects quality of citizenship and the representative basis of government. In an illiterate community the sense of civic responsibility is at its lowest, and disease, social isolation, and industrial inefficiency are found in highest degree.

It is difficult for those who can read easily to form even a bare conception of the mental limitations of the illiterate, the near-illiterate, and the nonreader. It is still harder to appreciate the material handicaps to earning a livelihood entailed by illiteracy. While illiteracy does not necessarily imply ignorance, it does predicate lack of information, comprehension, and understanding. It increases

prejudice, suspicion, and passion, and diminishes mutual appreciation and power to cooperate; yet cooperation is the essence of modern civilization, and inability to cooperate is the basis of race hatred. So that illiteracy is clearly a just topic for national solicitude and its eradication a proper subject for governmental action.

The people of the United States have not only the ability and opportunity to diminish illiteracy materially, but they also have an effective means. They possess a public-school system which when supported by public sentiment is equipped to reach out to every adult illiterate industrially employed. It has been proved to be economically practicable and advantageous in every way to extend public-school instruction in reading and writing to illiterates in factories and other work places. The proper adaptation of public-school teaching to adult illiterates can be made to increase materially individual ability for self-support and thereby the prosperity of all.

This adequate means for education of adults is at hand, its wider use is practicable, and the public may insist rightfully that every illiterate immigrant shall acquire at least ability to read and write in English as a condition of continued residence. Women employers in the home and managers in industry should require elementary schooling for all illiterates in their employ, and by encouragement and aid substitute in them hopefulness for apathy, intelligence for ignorance, and confidence for jealousy and distrust.

The handicap of illiteracy is a potent cause of social waste and industrial unrest. Immigrant illiteracy is a matter of vital concern to national prosperity, the more so because its evil results are not always directly evident. This will be more generally acknowledged as the American public becomes acutely conscious of the inevitable implications of illiteracy.

Immigration is steadily increasing, but it is chiefly from those countries where there is no public-school system or where the public-school system is of recent origin and is inadequate, so that the number of illiterate immigrants grows rapidly and entails larger and larger expenditure of public funds and private charity for the unemployable, the defective, the diseased, and the delinquent.

The immediate effect of the European war has been to cut off immigration almost wholly, and the problem of meeting new immigrant illiteracy may seem temporarily to be in abeyance; but immigration has always been greatly stimulated by prosperity of industry in the United States, and it is likely that in any period of stagnation and discouragement which may occur as a reaction abroad after the war, like that in the South after the Civil War, relative prosperity in the United States will attract greater numbers than ever.

PUBLIC POLICY TOWARD IMMIGRANT ILLITERACY.

The choice of policy toward immigrant illiterates possible for the United States seems to be—(1) to debar illiterates from admission, (2) to accept all illiterates without condition, or (3) to supply school-

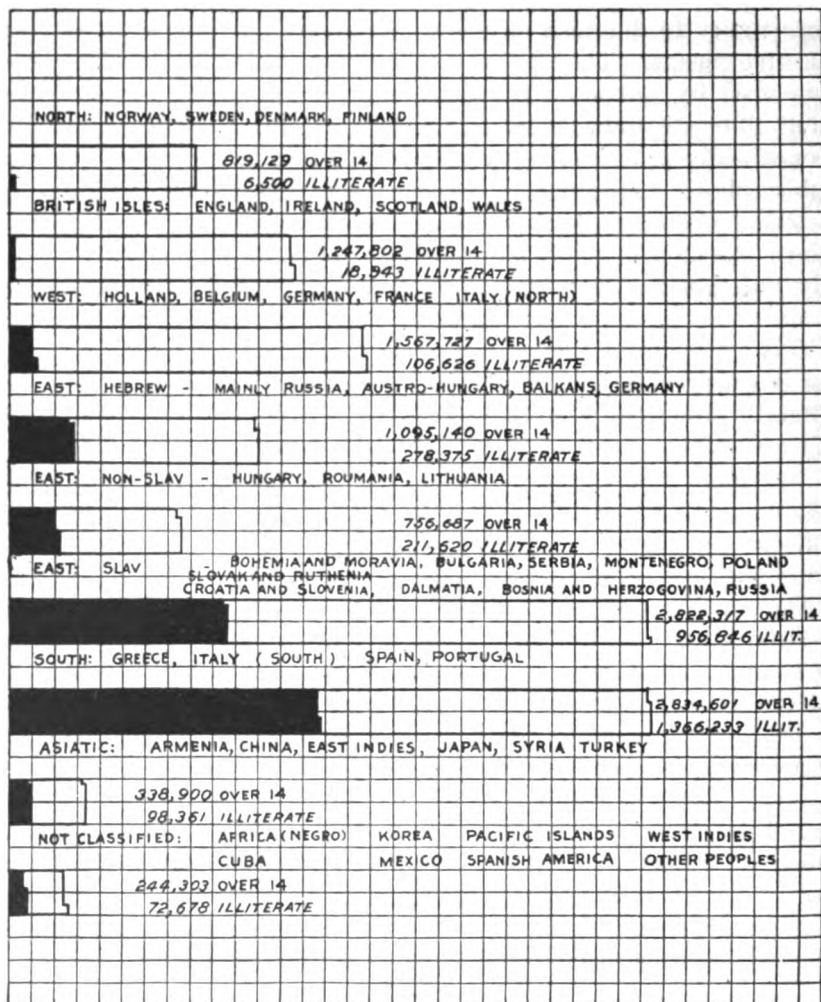


CHART 2.—Number of immigrants over 14 years of age and number of illiterate immigrants by geographical divisions, 1900-1914. Each square represents 50,000. Black spaces represent illiterates.

ing and require school attendance from all adult immigrants not mentally defective until they learn to read and write.

If the first course is not acceptable as a preferred public policy on the ground that it deprives the United States of a type of immigrant that may otherwise be valuable or because it is opposed to the

American spirit of freedom of opportunity to all, the second or third course remains.

The policy of "let well enough alone" is followed at the present time. This has resulted in a large increase in the number of persons who, for lack of knowledge, become unemployable as fast as machine process displaces the hand labor to which they are habituated. For example, the sale of hand shovels is less than one-third of what it was a decade or more ago, owing to the substitution of steam shovels, scoops, ditch diggers, and mechanical conveyors in most digging and shoveling operations. This mechanical revolution of one of the most simple forms of work has lessened materially the demand for a type of labor which for centuries has supplied a living to illiterates, but which now is rapidly shrinking as a field of opportunity for them. The same may be noticed in every industry; the world has less and less use for the unschooled and untrained in mind and hand.

The do-nothing policy has been costly in many respects. The percentage of avoidable accidents is increased through the inability of workers to read danger warnings or comprehend directions which would prevent accidents.

Inability to read involves waste of raw material in many industrial operations, entailing needless expense in manufacture and disappointment and irritation with regard to expected earnings.

In industrial organizations illiteracy results in ignorance of essential information and important work directions, and this causes misunderstanding and friction. It is noteworthy that industrial centers characterized by a high percentage of illiteracy are especially subject to costly and prolonged labor difficulties; notable examples have been Lawrence, Mass., Paterson, N. J., and the Colorado mining districts.

The third policy implies a certain degree of wisdom and foresight in requiring the provision and utilization of public elementary instruction for all who are children in mind though adults in years. Many communities provide some opportunity for adult instruction in evening schools, though not always carefully planned for and adapted to the requirements of adult illiterates, but it has been found that under present newer industrial conditions the evening school reaches comparatively few illiterate workers. Many who enroll in these classes are unable to persevere. Some of the more common reasons are physical fatigue after the day's muscular labor; nervous fatigue from intense application in rapid-process work; brain fog due to faulty work conditions, poor ventilation, bad illumination, unnecessary noise and vibration; absence of interest; lack of incentive.

Many unschooled aliens, since they are but children of a larger growth, will remain illiterate, just as many children do, unless under

compulsion to learn. Ambition to learn may be absent. More frequently there is a sense of reluctance to admit lack of schooling. Some employers of the unthinking type, moreover, even discourage efforts to learn on the part of the illiterates in their employ, never

1900-1904	1905-1909	1910-1914
NORTH: NORWAY, SWEDEN, DENMARK, FINLAND		
301,730 OVER 14 2,890 ILLIT.	277,875 OVER 14 2,745 ILLIT.	239,524 OVER 14 865 ILLIT.
BRITISH ISLES: ENGLAND, IRELAND, SCOTLAND, WALES		
277,065 OVER 14 7,445 ILLIT.	474,071 OVER 14 7,335 ILLIT.	426,666 OVER 14 4,163 ILLIT.
WEST: BELGIUM, GERMANY, FRANCE, ITALY (NORTH)		
387,740 OVER 14 43,283 ILLIT.	394,031 OVER 14 43,289 ILLIT.	586,330 OVER 14 34,054 ILLIT.
EAST: HEBREW - MAINLY RUSSIA, AUSTRO-HUNGARY, BALKAN, GERMANY		
272,281 OVER 14 67,669 ILLIT.	442,606 OVER 14 121,461 ILLIT.	379,179 OVER 14 89,245 ILLIT.
EAST: NON-SLAV - HUNGARY, ROMANIA, LITHUANIA		
158,667 OVER 14 39,735 ILLIT.	320,719 OVER 14 89,681 ILLIT.	277,301 OVER 14 82,214 ILLIT.
EAST: SLAV - BOHEMIA AND MORAVIA, BULGARIA, SERBIA, MONTENEGRO, POLAND, RUSSIA, SLOVAK AND RUTHENIA, CROATIA AND SLOVENIA, DALMATIA, BOSNIA, HERZEGOVINA		
626,486 OVER 14 206,499 ILLIT.	1,014,818 OVER 14 370,107 ILLIT.	1,181,213 OVER 14 378,640 ILLIT.
SOUTH: GREECE, ITALY (SOUTH), SPAIN, PORTUGAL		
594,821 OVER 14 360,905 ILLIT.	1,026,353 OVER 14 516,774 ILLIT.	1,113,457 OVER 14 488,554 ILLIT.
ASIATIC: ARMENIA, CHINA, EAST INDIES, JAPAN, SYRIA, TURKEY		
102,726 OVER 14 28,845 ILLIT.	187,462 OVER 14 48,591 ILLIT.	107,712 OVER 14 26,925 ILLIT.
NOT CLASSIFIED: AFRICAN (NEGRO), MEXICO, PACIFIC ISLANDS, WEST INDIES, CUBA, MEXICO, SPANISH AMERICA, OTHER PEOPLES		
29,395 OVER 14 4,426 ILLIT.	79,428 OVER 14 20,431 ILLIT.	135,480 OVER 14 47,631 ILLIT.
TOTAL 2,852,317 OVER 14 743,287 ILLIT.	4,357,412 OVER 14 1,220,406 ILLIT.	4,516,876 OVER 14 1,152,491 ILLIT.

CHART 3.—Number of immigrants over 14 years of age and number of illiterate immigrants by geographic divisions and by five-year periods. Each square represents 50,000. Black spaces indicate illiterates.

having realized that financial loss is incurred thereby and that even in the most unskilled work ignorant labor in general is costly labor.

For these and similar reasons the workers' class in daylight hours is a practical working measure to meet this new labor situation—a situation as new as industrial processes are new and of ever-increasing importance as the demand for unintelligent labor decreases.

VALUE AND BEARING OF ILLITERACY STATISTICS.

It is misleading simply to compare the numbers of illiterates admitted in successive years, because the volume of immigration diminishes in times of industrial depression and increases in times of industrial activity. For instance, 1907 was a year of great prosperity and heavy immigration until interrupted by the financial panic; in 1908 immigration fell off among all European races except the French, and among many races it decreased over one-half—among south Italians from 242,000 to 110,000. A similar, though less marked, industrial depression, with consequent decrease of immigration, occurred in 1904 and again in 1911. Thus each five-year period from 1900 to 1914 contained a period of depression, and it becomes possible to make comparisons between these periods with a fair degree of correctness.

The statistical study of illiteracy is like the study of vital statistics in showing trend or tendency of the times. It is of slight value or interest to know the illiteracy percentage or number of illiterates for any race or city unless these data may be compared with similar data for other years. It is of importance, however, in the study of industrial unrest, social disorder, and political conditions, and in the task of shaping legislation with intelligence, to know whether the population is becoming more illiterate or less so as the years go by; whether illiteracy is diminishing among certain elements of the population and increasing among certain other elements; whether congestion of cities with illiterates is more and more associated with segregation of communities, isolation of individuals, and decreased civic spirit as a result; and especially whether the adult population among the foreign-born, who have mainly suffered from lack of schooling, are being supplied with that minimum of mental equipment which will enable them to prosper and avoid exploitation by the unscrupulous.

The accompanying data and charts have been prepared to show the tendencies on the part of various races to send us more or less of their illiterate population and to indicate the decrease and increase of numbers of illiterates and percentage of illiteracy from year to year. In general, it will be noted that there is a slight but steady decrease in percentage of illiteracy among the immigrants of most races, although the number of foreign-born illiterates has increased rapidly as immigration has increased.

BASIS OF STATISTICS OF IMMIGRANT ILLITERACY.

When immigrants are admitted to the United States, inquiry is made by immigration inspectors as to ability to read and write. Some can read but not write; others can write but not read. Among

Lithuanians, for instance, many are able to read who are unable to write; but as a rule ability to read only or to write only is exceptional. In this study all are classed as illiterate who are unable to read and write in some language, not necessarily the English language. In discussion of literacy tests, it has been assumed at times by persons otherwise well informed that an immigrant is expected to be able to read and write in English in order to be classed as literate, but literacy implies ability to read or write either in the native language or in some other language.

No actual test of illiteracy is made among immigrants. The immigrant is not asked to read any printed matter; consequently the record of illiteracy rests upon the bare statement of the immigrant; yet, because no reason exists for making false statements, it is believed that untruthful answers are seldom given, and that statistics as recorded approximate closely the actual truth.

In a country like the United States, with long and open borders, a certain number of immigrants succeed in evading immigration officials, and their entrance is not recorded; but the percentage of error from this cause is so slight as to be almost negligible.

NUMBER OF ILLITERATES AND PERCENTAGE OF ILLITERACY AMONG FOREIGN-BORN.

Much stress is laid commonly upon percentage of illiteracy, yet from the practical viewpoint percentage of illiteracy in any given race or people is of far less importance than the number of illiterates admitted, except that races having a large percentage of illiteracy have generally contributed the largest numbers of immigrants. Nearly 11,000 illiterates from France, which has a percentage of illiteracy as low as 7 per cent, are of more practical importance to the United States than are 3,000 from Korea, which has 37.5 per cent of illiteracy; and the coming of 278,000 illiterate Hebrews from a people with a percentage of illiteracy of 25.4 means more to the cities of New York and Philadelphia than does the much smaller number of 57,000 Portuguese with the far higher illiteracy percentage of 65.1.

The basis of evaluation of immigrant illiteracy is the proportion existing between, first, the ratio of illiterates in any given race to the total number of illiterates and, second, the ratio of number of adults of that race to the total number of adults admitted during the same period of time.

This relation would properly serve as an index of immigrant illiteracy. Thus a race such as the Poles, who supply 14.4 per cent of the whole number of illiterates and are 10.6 per cent of all adult immigrants, would have a much lower index figure of illiteracy than would the Slovaks, who also supply nearly 14 per cent of illiterates, but

whose percentage of adults to the whole number of adult immigrants is only 4 per cent.

An index figure of illiteracy calculated upon this basis would serve as an important indication of relative cost to the United States of the assimilation of specific alien races. While immigration legislation of a restrictive nature may be affected in some degree by prejudice or by sentiment, such legislation must rest in the end upon economic grounds, and as a guide for legislation an index figure of illiteracy would be suggestive and helpful, as would be also in even greater

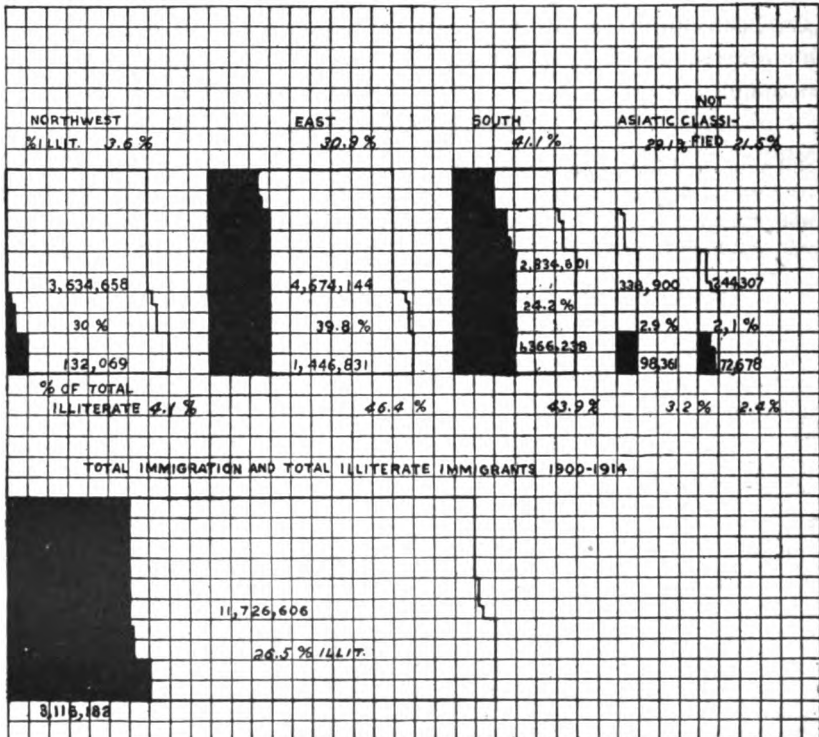


CHART 4.—Immigrant illiterates, 1900-1914, and number of immigrants over 14 years of age by geographical divisions. Each square represents 50,000. Black spaces indicate illiterates.

degree an index figure of physical disability, disease, mental defectiveness, and delinquency.

CLASSIFICATION BY CENSUS PERIODS.

Because recent statistics for comparative study are available only since 1899, it has seemed best to make the analysis of them correspond as far as possible with the census period of 1910. The census for 1910 was taken as of April 15, 1910, and data relating to immigrants subsequent to that date were excluded. As the fiscal year for the United States Bureau of Immigration ends on June 30, the figures

given in the Reports of the Commissioner of Immigration for the years 1900 to 1909, inclusive, correspond with the figures of the census of 1910.

For this reason the statistics for the year 1899 have been omitted in order to parallel the immigration record with the census figures. The period from 1900 to 1914, inclusive, is divided conveniently into the three five-year periods, 1900-1904, 1905-1909, and 1910-1914, for purposes of easy comparison and to provide simple methods for automatic checking up of totals and insuring accuracy of compilation.

Eleven millions of immigrants over 14 years of age (11,726,606) have been admitted into the United States during the past 15 years. One-fourth of this number could not read or write at all in any language.

Illiteracy of immigrants.

Total number of immigrants, 1900-1914, inclusive.....	13, 377, 087
Number over 14 years of age.....	11, 726, 606
Number illiterate.....	3, 116, 182
Ratio of illiterates to number over 14.....per cent..	26. 55

TABLE 6.—*Illiterate immigrants, by nationalities, during certain periods.*

	Total.	1910-1914	1905-1909	1900-1905
Italian (southern).....	1, 208, 703	415, 806	458, 415	334, 482
Polish.....	451, 406	179, 358	174, 241	97, 807
Hebrew.....	278, 375	89, 245	121, 461	67, 669
Croatian.....	141, 797	40, 264	57, 791	43, 742
Lithuanian.....	121, 992	48, 011	48, 736	25, 245
Ruthenian.....	116, 935	55, 218	44, 188	17, 529
Slovak.....	94, 030	20, 700	35, 166	38, 164
Greek.....	87, 496	41, 916	34, 875	10, 705
Russian.....	78, 133	54, 370	20, 925	2, 838
Portuguese.....	57, 010	23, 897	18, 490	14, 633
Bulgarian.....	52, 562	18, 722	28, 179	5, 661
Italian (northern).....	46, 003	10, 124	18, 725	17, 214
German.....	45, 782	16, 344	19, 538	9, 900
Roumanian.....	44, 817	21, 520	20, 008	3, 289
Magyar.....	44, 811	12, 683	20, 937	11, 191
Mexican.....	43, 879	33, 037	10, 458	384
Japanese.....	43, 058	7, 295	25, 786	9, 977
Syrian.....	36, 532	5, 128	12, 029	9, 375
Dalmatian.....	20, 233	9, 516	8, 846	1, 871
Spanish.....	13, 024	6, 935	5, 004	1, 085
Irish.....	11, 937	2, 102	4, 231	5, 604
Armenian.....	11, 766	7, 417	2, 782	1, 567
Turkish.....	11, 634	4, 903	5, 786	945
African.....	11, 023	6, 038	3, 419	1, 566
French.....	10, 921	6, 452	3, 516	953
English.....	8, 331	1, 508	2, 336	1, 487
Dutch.....	3, 890	1, 134	1, 510	1, 216
Scandinavian.....	3, 642	502	1, 540	1, 000
East Indian.....	3, 021	1, 248	1, 059	104
Finnish.....	2, 858	363	1, 205	1, 290
Korean.....	2, 825	52	1, 965	808
Cuban.....	2, 562	340	1, 371	851
Chinese.....	2, 350	924	539	877
Bohemian.....	1, 750	492	771	487
Scotch.....	1, 200	473	593	194
Spanish-American.....	648	119	159	370
West Indian.....	424	137	159	128
Welsh.....	415	80	175	160
Pacific Islanders.....	85	1	13	71
Other peoples ¹	11, 232	8, 107	2, 877	248
Total.....	3, 116, 182	1, 162, 491	1, 220, 404	743, 287

¹ Than those named in this list.

No record is available of the number who barely knew their letters or could read only with difficulty. In general, percentage of immigrant illiteracy is less than half the percentage of illiteracy as reported in census statistics of countries from which immigrants come. Roumania, for instance, issued in 1910 a detailed statistical report upon decrease of illiteracy sequent to the installation of a Roumanian public-school system in 1900. Although there was a 10 per cent reduction in percentage of illiterates during the decade, the illiteracy was still 65 per cent for all over 14. Among Roumanians who come to this country percentage of illiteracy is much lower, averaging 34 per cent, so that it is proper to assume that the better educated are the ones who emigrate. On the other hand, in addition to the wholly illiterate, of whom 44,817 from this one nation alone have been recorded in 15 years, many come who are nearly illiterate, who read and write with difficulty, but who are not technically recorded as illiterates.

This would seem to be equally true of immigrants from most of eastern and southern Europe and from Asia. Thus another quarter of the whole number of adult immigrants are nearly illiterate; so that at least one-half of the immigrants admitted to the United States are either wholly or nearly illiterate. This has been true only of the last 12 years, since the character of immigration has largely altered. Among most of the Mediterranean and Slav peoples and Asiatics, the proportion is even greater, because the percentage of complete illiteracy is higher.

It is important to realize that the problem of the wholly illiterate adult is but a small part of the educational problem which confronts the nation, and which is increasing rapidly in importance, because so little is being done to meet it adequately. The number of illiterates of foreign birth increases nearly as fast as the combined numbers of native white illiterates and Negro illiterates diminish.

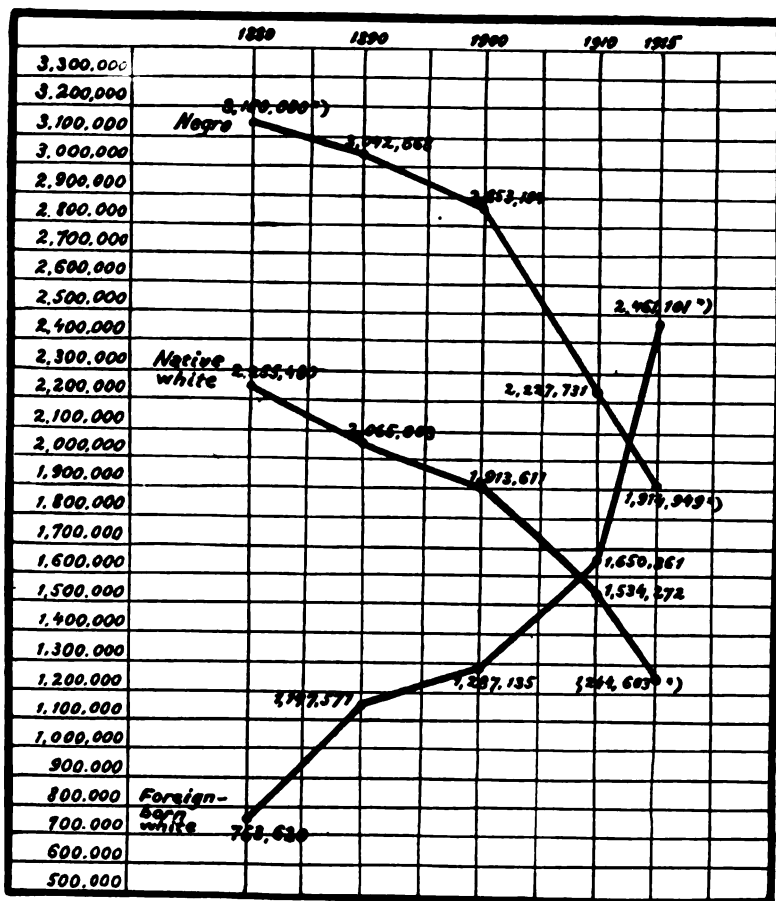
The number of foreign-born illiterates admitted since 1899 (3,116,182) is 57.7 per cent of the total number of illiterates in the United States in 1910 (5,516,163). It is one-third more than all the Negro illiterates in the United States in 1910 (2,226,731) and double the number of white illiterates in 1910 (1,534,272).

In 1910 there were 1,650,361 foreign-born illiterates in the United States, or 886,761 more than in 1900.

During the five years since the 1910 census 1,152,491 illiterate immigrants have been admitted—a net increase of approximately 810,740 since 1909, taking into consideration the number of illiterate emigrants who left the country during the same period of time. This, added to 1,650,361 in 1910, would make the total number of foreign-born illiterates in the United States on June 30, 1914, ap-

proximately 2,461,101,¹ or more than the combined population of St. Louis, Boston, Cleveland, Baltimore, Pittsburgh, and Buffalo.

Until 1910 native white illiterates outnumbered foreign-born illiterates. The number of native white illiterates has been decreasing, while the foreign-born have been more rapidly increasing; the statistical curves (Chart 5) crossed in 1910.



^{*)} Estimated.

CHART 5.—Illiteracy curves, 1880-1915. Native whites, foreign-born, Negroes.

From 1880 to 1910 the *increase* in number of foreign-born illiterates was 886,741, whereas the *decrease* in number of native white illiterates was 721,188, and of Negro illiterates, 922,269. The increase

¹ From 1910 to 1914, inclusive, the *net* immigration was 3,639,458, viz: 817,619 in 1910; 512,085 in 1911; 504,910 in 1912; 889,702 in 1913; and 915,142 in 1914. During this period the ratio of persons over 14 (4,516,876) to the total (5,174,701) was 87.29 per cent. This percentage of the *net* immigration is 3,176,882. As the percentage of illiteracy for this period is 25.52, the number of illiterates would be approximately 810,740, or only slightly less for the last 5 years than for the preceding 10 years. This conservative estimate is probably an understatement of fact.

in number of foreign-born illiterates by decades was as follows: 383,951 in 1880-1890; 130,564 in 1890-1900; 363,226 in 1900-1910; total, 886,741.

The increase of foreign-born illiterates since the last census, although official statistics are not in existence, is probably nearly equal to the whole increase for the preceding 30 years, owing to the large increase since 1909 in immigration from southern and eastern Europe. This increase for the five-year period may be estimated at 810,740, the net immigration being 3,639,458.

Since 1910 it is probable that the rate of decrease of illiteracy among native whites and among Negroes has not been less than in the decade from 1900 to 1910; it may have been greater, owing to (a) increased mortality among older illiterates, (b) better school facilities for children, (c) increased efforts in counteracting adult illiteracy. Therefore in Chart 5 the decrease from 1910 to 1915 is indicated at the rate for the preceding decade.

CLASSIFICATION BY NATIONALITY.

Prior to 1899 immigrant illiterates were classified according to country of origin. Since that year classification has been by race or nationality. Thus it is impossible to make comparative statistical studies of illiteracy among immigrants except for years before 1899 or for years since that date.

The terms Celtic, Teutonic, Iberic, and the like have been used customarily to describe peoples. The present value of these terms is impaired because they are rapidly becoming vague as far as European nationalities are concerned. In recent years easy and cheap travel from land to land, wider distribution of wealth, and decrease in oppressive class restrictions have allowed more people to travel and settle wherever conditions favor earning a livelihood. Inter-marriage, also, between individuals of very different nationalities has become frequent and has helped to obliterate such distinctions along classical lines, serving to modify even such pronounced anatomical characteristics as shape of skull and color of hair and eyes. If a German man of Teutonic type marries a Balkan woman of Slav type, one child may inherit the long skull and blue eyes from the father; another child the square skull and dark eyes and hair from the mother; while a third may blend the characteristics of each, with the result that offspring of the same parents may present characteristics of entirely different nationalities.

Therefore classification by language, customs, and educational opportunity is of more value for the study of immigrant illiteracy; these factors mainly determine it. For these and other reasons, which might well be noted in greater detail, comparison is of more

value when possible between nationalities not closely allied by near geographical relationship, intermarriage, and similarity of customs, language, and educational opportunity.

NEW ENGLAND			EAST SOUTH CENTRAL		
1890	196,320		1890	9,411	
1900	224,988		1900	9,253	
1910	242,513		1910	8,215	
MIDDLE ATLANTIC					
1890	383,874				
1900	509,436				
1910	735,244				
EAST NORTH CENTRAL			WEST SOUTH CENTRAL		
1890	272,537		1890	52,685	
1900	263,677		1900	69,086	
1910	300,613		1910	84,674	
WEST NORTH CENTRAL			MOUNTAIN		
1890		140,978	1890	28,153	
1900		120,299	1900	29,829	
1910		120,573	1910	52,950	
SOUTH ATLANTIC			PACIFIC		
1890		24,053	1890	39,558	
1900		26,437	1900	34,020	
1910		37,934	1910	67,645	

CHART 6.—Foreign-born illiterates in the population 10 years of age and over, by geographical divisions, 1890, 1900, and 1910.

The European peoples have therefore been considered under the following headings for convenience of appreciative comparison:

Northern Europe: Finland, Norway, Sweden, Denmark.

British Isles: England, Ireland, Scotland, Wales.

Western Europe: Belgium, Holland, France, Germany, northern Italy, and Switzerland.

Eastern Europe: Hebrews and—

Non-Slav—Hungary, Lettish and Lithuanian Provinces, Roumania.

Slav—Bohemia, Bulgaria and Croatian, Dalmatian, Polish, Ruthenian, and Slovenian Provinces, and Russia.

Southern Europe: Greece, southern Italy, Portugal, and Spain.

Asiatic: Armenia, China, East Indies, Japan, Syria, Turkey.

Not classified: Africa (Negro), Cuba, Korea, Mexico, Pacific islands, Spanish America, other countries.

The last two groups include those countries which can not be classified as European. They send comparatively few emigrants to this country. Immigrant illiteracy is caused mainly by immigration from European countries, and to grasp its characteristics may profitably be considered in the divisions as noted. Asiatic immigration from the Far East is not increasing, but the highly illiterate countries of western Asia are rapidly increasing their emigration to the United States, though as yet the numbers are not large.

ILLITERATE IMMIGRANTS BY NATIONALITIES IN THE THREE PERIODS
1900-1904, 1905-1909, 1910-1914.

From 1900 to 1914, inclusive, the total immigration over 14 years of age was 11,726,606, of whom 3,116,182, or 26.55 per cent, were illiterate.

During the five-year period, 1900-1904, the total immigration over 14 years of age was 2,852,317, of whom 743,287, or 26.83 per cent, were illiterate.

From 1905-1909 the immigration nearly doubled, to 4,357,413, with 1,220,404, or 28.01 per cent, illiterate.

From 1910-1914 there was a still further increase to 4,516,876, but illiterates decreased slightly to 1,152,491, or 25.52 per cent.

The number of immigrants over 14 years of age, the number of illiterates, and percentages of illiteracy from 1900 to 1914, inclusive, contributed by different regions, are as follows:

TABLE 7.—*Immigrants over 14 years of age and illiterates from different regions, 1900-1914*

Regions and per cent of illiterates to number of immigrants by regions.	Immigrants over 14 years of age.	Illiterate.	Per cent of illiterate to total illiterate.
Northwestern Europe (3.6 per cent).....	3,634,658	132,069	4.1
Eastern Europe (30.9 per cent).....	4,674,144	1,446,841	46.4
Southern Europe (41.1 per cent).....	2,834,601	1,366,233	48.6
Asiatic (20.1 per cent).....	338,900	98,361	3.2
Not classified (21.5 per cent).....	244,303	72,678	2.4
Total.....	11,726,606	3,116,182	100.0

Comparing the third period with the second, immigration is greater, but the number of illiterates is somewhat smaller. Detailed study of the record for each nation for each year shows that with most nationalities the number of illiterates is rapidly increasing, even though the percentage of illiteracy is steadily decreasing.

Immigrants are apt to be aware that they will be questioned with regard to reading and writing, and even this fact may well serve to contribute to efforts toward literacy. Any further requirements after admission would doubtless be an additional encouragement to elementary instruction abroad and tend to forward interest in schools and teaching in the more backward home countries, and so be in a measure of some assistance in promoting a higher world civilization, as well as in giving the United States a more intelligent class of immigrants.

TABLE 8.—*Immigration by nationalities, from 1900 to 1914, inclusive.*

Nationalities.	Total immigration.	Number over 14 years of age.	Number of illiterates.	Per cent of illiterates.
African.....	61,779	55,806	11,023	19.9
Armenian.....	51,276	46,609	11,766	25.2
Bohemian and Moravian.....	136,344	109,087	1,750	1.6
Bulgarian, Servian, and Montenegrin.....	142,347	138,516	52,562	37.9
Chinese.....	28,243	26,595	2,550	8.8
Croatian and Slovenian.....	450,042	428,291	141,797	33.3
Cuban.....	56,544	47,023	2,562	5.4
Dalmatian, Bosnian, and Herzegovinian.....	49,070	47,583	20,335	42.5
Dutch and Flemish.....	137,668	108,819	3,860	3.5
East Indian.....	6,813	5,737	3,021	44.7
English.....	612,117	517,183	5,331	1.1
Finnish.....	187,658	170,893	2,858	1.7
French.....	189,837	157,229	10,921	7.0
German.....	1,020,293	844,868	45,782	5.3
Greek.....	367,679	354,271	87,496	24.6
Hebrew.....	1,448,226	1,096,140	278,375	26.4
Irish.....	552,468	520,320	11,837	2.3
Italian (northern).....	503,668	456,811	46,063	10.5
Italian (southern).....	2,624,987	2,314,313	1,208,703	52.4
Japanese.....	173,324	160,295	43,058	25.4
Korean.....	8,025	7,470	2,825	37.5
Lithuanian.....	245,736	225,999	121,992	53.9
Magyar.....	451,194	401,856	44,811	11.1
Mexican.....	106,579	81,656	43,879	53.7
Pacific Island.....	270	247	85	24.5
Polish.....	1,374,229	1,240,635	451,406	36.3
Portuguese.....	110,886	87,656	57,010	65.1
Roumanian.....	133,769	128,832	44,817	34.8
Russian.....	219,508	207,793	78,133	37.6
Ruthenian.....	252,979	239,343	116,935	48.9
Scandinavian.....	715,307	648,436	3,642	.6
Scotch.....	221,298	185,939	1,260	.7
Slovak.....	461,438	414,070	94,030	22.7
Spanish.....	87,299	78,361	13,024	16.6
Spanish-American.....	16,071	13,600	648	4.8
Syrian.....	82,403	70,174	26,532	32.2
Turkish.....	19,888	19,430	11,634	59.8
Welsh.....	20,258	24,380	415	1.7
West Indian.....	16,265	14,165	424	2.9
Other peoples.....	25,202	24,236	11,232	46.4
Total.....	13,377,087	11,726,606	3,116,182	26.55

TABLE 9.—*Immigrants, by nationalities, in the three periods 1900–1904, 1905–1909, 1910–1914.*

Nationalities.	1900–1904		1905–1909		1910–1914	
	Number over 14 years of age.	Number illiterate.	Number over 14 years of age.	Number illiterate.	Number over 14 years of age.	Number illiterate.
African	5,707	1,566	19,511	3,419	30,588	6,038
Armenian	6,637	1,567	11,212	2,782	28,820	7,417
Bohemian	26,993	5,487	43,790	771	38,304	1,492
Bulgarian	13,927	5,661	67,838	28,179	57,751	18,722
Chinese	11,639	877	6,768	539	8,188	934
Croatian	114,757	43,742	160,279	57,791	150,255	40,264
Cuban	11,611	851	20,948	1,371	14,564	340
Dalmatian	5,981	1,871	19,792	8,846	21,809	9,516
Dutch	18,722	1,216	38,368	1,510	51,729	1,134
East Indian	127	104	3,506	1,669	2,804	1,248
English	93,044	1,487	200,393	2,336	223,726	1,508
Finnish	58,406	1,290	59,498	1,205	52,789	363
French	25,396	953	54,046	3,516	77,797	6,452
German	214,727	9,900	330,510	19,538	299,631	16,344
Greek	41,437	10,705	126,995	34,875	185,839	41,916
Hebrew	273,281	67,669	442,698	121,461	379,173	89,245
Irish	159,733	5,604	190,206	4,231	170,381	2,102
Italian (northern)	128,511	17,214	171,107	18,725	157,193	10,124
Italian (southern)	620,617	334,482	943,885	458,415	849,811	415,906
Japanese	65,335	9,977	74,796	25,786	29,164	7,295
Korean	2,439	808	4,781	1,965	250	52
Lithuanian	53,062	25,245	81,068	48,736	91,869	48,011
Magyar	93,550	11,191	184,772	20,937	123,534	12,683
Mexican	1,970	384	16,932	10,458	62,764	33,037
Pacific Island	221	71	40	13	86	1
Polish	279,292	97,807	438,350	174,241	522,993	179,358
Portuguese	21,425	14,633	26,755	18,480	39,476	23,897
Romanian	12,055	3,289	54,879	20,008	61,898	21,520
Russian	9,527	2,838	50,268	20,925	147,998	54,370
Ruthenian	33,304	17,529	79,346	44,188	126,693	55,218
Scandinavian	243,324	1,600	218,737	1,540	186,735	502
Scott	20,038	194	73,540	593	92,361	473
Slovak	143,505	38,164	155,155	35,166	115,410	20,700
Spanish	11,342	1,085	28,688	5,004	38,331	6,935
Spanish-American	2,935	370	5,296	159	5,369	119
Syrian	17,358	9,375	22,128	12,029	30,688	5,128
Turkish	2,330	945	9,052	5,786	8,048	4,903
Welsh	4,250	160	9,932	175	10,198	80
West Indian	3,272	128	5,638	159	5,255	137
Other peoples	1,340	248	6,282	2,877	16,614	8,107
Total	2,852,317	743,287	4,357,413	1,220,404	4,516,876	1,152,491

DISTRIBUTION OF FOREIGN-BORN ILLITERATES.

In 1910, of the total number (1,650,361) of illiterate foreigners, 1,022,537, or 62 per cent, were huddled in cities of the east North Central, Middle Atlantic, and New England States; the chief manufacturing centers, as contrasted with 255 813, or 15.5 per cent, in the rural districts of this section.

Only 149,934, or 9 per cent, of illiterate foreigners, were found in all the remaining urban communities of the rest of the United States, and but 221,813, or 13.5 per cent, in the corresponding rural districts.

TABLE 10.—*Distribution of foreign-born illiterates in urban and rural population, 1910.*

Sections.	Urban.		Rural.		Total illiterates.
	Illiterates.	Per cent.	Illiterates.	Per cent.	
New England.....	222,080	62.0	20,488	15.5	242,513
Middle Atlantic.....	582,736		152,488		735,244
East North Central.....	217,771		82,842		300,613
West North Central.....	52,093	3.2	67,880	4.1	120,573
South Atlantic.....	21,511		16,423		37,934
East South Central.....	5,163	3.0	3,062	4.9	8,215
West South Central.....	23,415		61,289		84,674
Mountain.....	16,274	2.8	36,676	4.5	52,950
Pacific.....	30,878		36,767		67,645
Total.....	1,172,491	71.0	477,870	29.0	1,650,361

MALE AND FEMALE ILLITERATES.

Male immigrants outnumber female immigrants, and in the foreign-born population, of whom such large numbers are illiterate, males outnumber females by 129.2 to 100. The ratio of foreign-born illiterate males to foreign-born illiterate females is 118 to 139.

ILLITERATE FOREIGN-BORN MALES OF VOTING AGE.

Among 1,406,364 white illiterate males of voting age in 1910, 788,631 were foreign-born, or over one-half (56.7 per cent). Ten years previously among 1,249,897 the foreign-born were 562,316, or 44.9 per cent, an increase of 143,315, whereas among native white males of voting age the number of illiterates decreased 61,564 and among Negro males over 21 the decrease of illiterates was 157,485.

LITERATE AND ILLITERATE COUNTRIES.

In the countries of northwestern Europe there are few illiterates comparatively, and no special census returns are made concerning them. Schools are general and good; schooling is compulsory.

Twenty-five years ago 56.5 per cent of all immigrants to the United States came from these countries. In 1890, 73.9 per cent of all the foreign-born in this country were natives of Germany, Great Britain, Norway, Sweden, and Denmark; and a few thousand came annually from Belgium, France, and Switzerland. In 1910 the percentage had fallen to 46.8 per cent, the remainder coming from southern and eastern Europe and the Orient.

In 1880 in the United States there were 7,165,646 persons who had come from these more literate lands of northwestern Europe, and only 230,742 were from southern and eastern Europe. In 1910 the number from literate countries had decreased to 6,740,400, and the number from countries where illiteracy prevails—i. e., southern and eastern Europe—had increased to 5,048,583.

TABLE 11.—*Ratio of illiterate immigrants to whole number of immigrants over 14 years of age, by nationalities, 1900 to 1914, inclusive.*

	Per cent.		Per cent.
1. Portuguese.....	65.1	21. Pacific Islanders.....	24.5
2. Turkish.....	59.8	22. Slovak.....	22.7
3. Mexican.....	53.7	23. African.....	19.8
4. Lithuanian.....	53.9	24. Spanish.....	16.6
5. Italian (southern).....	52.4	25. Magyar.....	11.1
6. Syrian.....	52.2	26. Italian (northern).....	10.5
7. Ruthenian.....	48.9	27. Chinese.....	8.8
8. Other peoples ¹	46.4	28. French.....	7.0
9. East Indian.....	44.7	29. Cuban.....	5.4
10. Dalmatian, Bosnian, and Herzogovinian.....	42.5	30. German.....	5.3
11. Bulgarian, Serbian, and Montenegrin.....	37.9	31. Spanish-American.....	4.8
12. Russian.....	37.6	32. Dutch and Flemish.....	3.5
13. Korean.....	37.5	33. West Indian.....	2.9
14. Polish.....	36.3	34. Irish.....	2.3
15. Roumanian.....	34.8	35. Welsh.....	1.7
16. Croatian and Slovenian.....	33.3	36. Finnish.....	1.7
17. Hebrew.....	25.4	37. Bohemian and Moravian.....	1.6
18. Japanese.....	25.4	38. English.....	1.1
19. Armenian.....	25.2	39. Scotch.....	.7
20. Greek.....	24.6	40. Scandinavian.....	.6

¹ Than those named in this list.

NORTHWESTERN EUROPE.

Schooling, which may be compulsory either by custom or law or by both, determines degree of illiteracy. Throughout northwestern Europe compulsory schooling is general. Immigrants show a low percentage of illiteracy, varying from one-half of 1 per cent among Scandinavians to 10 per cent among northern Italians. Among all these nationalities illiteracy is steadily diminishing, and during the past few years is markedly less than 10 years ago and earlier.

EASTERN EUROPE.

Among Hebrews coming in increasing numbers from eastern Europe, one-fourth are illiterates.

Magyars or Hungarians, who in racial type and language are related to the highly literate Finnish people and who are in close social, business, and educational affiliation with the literate countries of western Europe, have a low percentage of illiteracy, 11.1 per cent. The Magyars are not Slavs.

TABLE 12.—Immigrants over 14 years of age and number of illiterates, from certain geographical divisions.

Geographical divisions.	Period.	Immigrants over 14 years of age.	Number of illiterates.
Northern Europe..... (Includes Norway, Sweden, Denmark, Finland.)	1900-1904 1905-1909 1910-1914	301,730 277,875 239,524	2,890 2,745 865
		819,129	6,500
British Isles.....	1900-1904 1905-1909 1910-1914	277,065 474,071 496,666	7,445 7,335 4,163
		1,247,802	18,943
Western Europe..... (Includes Holland, Belgium, Germany, France, northern Italy.)	1900-1904 1905-1909 1910-1914	387,346 594,031 586,350	29,283 43,289 34,054
		1,567,727	106,626
Eastern Europe (includes Austria-Hungary, the Balkans, Russia, and Hebrews from Germany): Hebrew.....	1900-1904 1905-1909 1910-1914	273,281 442,686 379,173	67,669 121,461 89,245
		1,095,140	278,375
Non-Slav.....	1900-1904 1905-1909 1910-1914	158,667 320,719 277,301	39,725 89,681 82,214
		756,687	211,620
Slav.....	1900-1904 1905-1909 1910-1914	626,286 1,014,818 1,181,213	208,099 370,107 378,640
		2,822,317	956,846
Southern Europe..... (Includes Greece, southern Italy, Portugal, Spain.)	1900-1904 1905-1909 1910-1914	694,821 1,026,323 1,113,457	360,905 516,774 488,554
		2,834,601	1,366,233
Asiatic..... (Includes Armenia, Syria, Turkey, China, Japan, East Indies.)	1900-1904 1905-1909 1910-1914	103,726 127,462 107,712	22,845 48,591 26,925
		338,900	98,361
Not classified..... (Includes Africa (Negro), Cuba, Korea, Mexico, Pacific islands, Spanish America, West Indies, other peoples.)	1900-1904 1905-1909 1910-1914	29,395 79,428 135,480	4,426 20,421 47,831
		244,303	72,678

TABLE 13.—*Immigrants over 14 years of age and number of illiterates, by nationalities, from certain geographical divisions.*

	1900-1904		1905-1909		1910-1914	
	Immigrants over 14 years of age.	Illiterates.	Immigrants over 14 years of age.	Illiterates.	Immigrants over 14 years of age.	Illiterates.
Northern Europe:						
Finnish.....	58,406	1,290	59,498	1,205	52,789	363
Scandinavian.....	243,324	1,600	218,377	1,540	186,735	502
	301,730	2,890	277,875	2,745	239,524	865
British Isles:						
English.....	93,044	1,487	200,398	2,336	223,726	1,508
Irish.....	159,733	5,604	190,206	4,231	170,381	2,102
Scotch.....	20,038	194	73,540	593	92,361	473
Welsh.....	4,250	160	9,932	175	10,198	80
	277,065	7,445	474,071	7,335	496,666	4,163
Western Europe:						
Dutch.....	18,722	1,216	38,368	1,510	51,729	1,134
French.....	25,386	953	54,046	3,516	77,797	6,452
German.....	214,727	9,900	330,510	19,538	299,631	16,344
Italian (northern).....	128,511	17,214	171,107	18,725	157,193	10,124
	387,346	29,283	594,031	43,289	586,350	34,054
Eastern Europe:						
Hebrew.....	273,281	67,660	442,686	121,461	379,173	89,245
Non-Slav—						
Magyar.....	93,550	11,191	184,772	20,937	123,534	12,683
Lithuanian.....	53,062	25,245	81,068	48,736	91,869	48,011
Roumanian.....	12,055	3,289	54,879	20,008	61,898	21,520
	158,667	39,725	320,719	89,681	277,301	82,214
Slav—						
Bohemian.....	26,993	487	43,790	771	38,304	492
Bulgarian.....	12,927	5,661	67,838	28,179	57,751	18,722
Croatian.....	114,757	43,742	160,279	57,791	150,255	40,264
Dalmatian.....	5,981	1,871	19,792	8,846	21,809	9,516
Polish.....	279,292	97,807	438,350	174,241	522,993	179,358
Russian.....	9,527	2,838	50,268	20,925	147,998	54,370
Ruthenian.....	33,304	17,529	79,346	44,188	126,693	55,218
Slovak.....	143,505	38,164	155,155	35,166	115,410	20,700
	626,286	208,099	1,014,818	370,107	1,181,213	378,640
Southern Europe:						
Greek.....	41,437	10,705	126,995	34,875	185,839	41,916
Italian (southern).....	620,617	334,482	843,885	458,415	849,811	415,806
Portuguese.....	21,425	14,633	26,755	18,480	39,476	23,897
Spanish.....	11,342	1,085	28,688	5,004	38,331	6,935
	694,821	360,905	1,026,323	516,774	1,113,457	488,554
Asiatic:						
Armenian.....	6,637	1,567	11,212	2,782	28,820	7,417
Chinese.....	11,639	877	6,768	539	8,185	934
East Indian.....	427	104	3,566	1,660	2,804	1,248
Japanese.....	65,335	9,977	74,796	25,786	29,164	7,295
Syrian.....	17,358	9,375	22,128	12,029	30,688	5,128
Turkish.....	2,330	945	9,082	5,786	8,048	4,903
	103,726	22,845	127,462	48,591	107,712	26,925
Not classified:						
African.....	5,707	1,566	19,511	3,419	30,588	6,038
Cuban.....	11,511	851	20,948	1,371	14,564	340
Korean.....	2,430	808	4,781	1,965	250	52
Mexican.....	1,979	384	16,932	10,458	62,754	33,037
Pacific Islander.....	221	71	40	13	86	1
Spanish-American.....	2,935	370	5,296	159	5,369	119
West Indian.....	3,272	128	5,638	159	5,255	137
Other peoples.....	1,340	248	6,282	2,877	16,614	8,107
	29,395	4,426	79,428	20,421	135,480	47,831

SLAVS AND NONSLAVS.

There is need for care in making unfounded generalizations with regard to immigrant peoples and in attempting to classify immigrant illiteracy.

That the Slavic type is not a determining factor in illiteracy is indicated by the fact that of the three non-Slav races of eastern Europe the Magyars or Hungarians (11.1 per cent) are a literate people. The Roumanian immigrants, also non-Slavs, have a percentage of illiteracy of 34.8; while the Lithuanians, the third non-Slav race, are among the most illiterate (53.4 per cent) who come to the United States. Thus some non-Slavs of eastern Europe may be far more illiterate than some Slavs.

To illustrate still further the futility of classifying illiterate immigrants along traditional lines and of regarding Slavs as generally illiterate, it is necessary only to cite the Bohemians and Moravians, who are Slavs and who are among the most highly literate races (1.6 per cent) admitted to the United States.

It is worth noting however, that owing to the almost universal lack of public schooling, immigrant illiteracy from eastern Europe, including most Slav countries, in general averages over 30 per cent.

SOUTHERN EUROPE.

Southern Europe is most illiterate. The bulk of illiterate immigrants are from southern Italy, and their percentage of illiteracy is 52.3 per cent. Greece has a percentage of 24.6, but contributes only 2.15 per cent of all adults, in comparison with nearly 20 per cent coming from southern Italy. The illiteracy of Portuguese immigrants is highest of all, but Portugal sends less than 1 per cent of all immigrants.

In these southern or Mediterranean lands, schooling of any kind is uncommon or of low grade, the better schools being open only to children of the privileged in rank or wealth. Therefore among Mediterranean immigrants is found what is the inevitable result of lack of schooling everywhere—disease and mental defectiveness—with a type of immigrant who easily may become dependent or a public charge at an early age and be an uneconomic contribution to national integrity and sturdy prosperity.

III. THE WORKERS' CLASS.

HANDICAPPED TOILERS.

Few persons realize how vast are the numbers of ill-equipped non-English-speaking aliens who have been poured into American industry during the past few years. Since 1908 there have been 4,406,413

from eastern and southern Europe alone; of this number over 1,300,000 were unable to read or write in any language. In 1910, in the three States of New York, New Jersey, and Pennsylvania there were 873,812 illiterates, but of these 767,587 were either aliens or were born of foreign parents.

Wage worth is determined mainly by intelligence, and lack of schooling affects unfavorably employment, retention, advancement, and the wage attainable. If the worker has been taught little or nothing, when he comes into competition with those who know more and can do more he is outclassed and is worth less. No minimum-wage law reaches the essential difficulties of low earning power. The more illiterate and untrained the worker, the less his ability to realize the reasons and remove the causes of his own lack of employment or low and stationary wage.

The illiterate alien especially is handicapped from the start by ignorance of the English language and by consequent distrust and suspicion increased through lack of knowledge of American ways, industrial operation, and work requirements. This contributes to low wage earning and so gives rise to discontent. For these reasons it is becoming imperative for educators, for industrial managers, and for labor organizations to concern themselves more directly with educational opportunities for adult workers.

It is possible for the public school to establish classes in the workshop itself and so aid workers to gain better understanding of American ideals, standards, customs, and methods, and to become more self-reliant, capable, and responsible. Exploitation of labor is favored by the existence of widespread illiteracy among alien workers, inability to cooperate, and their own helplessness in consequence. Problems of industrial unrest are problems of education.

ILLITERACY AND THE SWEATSHOP.

Modern industrial management realizes that the sweatshop is an industrial cancer which must be extirpated. There exist numerous lines of manufacture in which an ambitious, conscienceless, and forceful man can start with little capital, can utilize whatever he has, convert it into cash, and begin manufacturing. Using a dirty tenement and exploiting the labor of ignorant girls, non-English-speaking men, and untaught children, he demoralizes trade and ultimately harms the very workers whose immediate need for wage earning he has met. This happens not only in cities, but in country towns and villages.

At the other end of the industrial scale are certain established firms whose success depends not on exploitation of cheap labor, but on good management. The education of the industrial manager is proceeding rapidly, because he is being compelled by closer study of

waste and cost to give more attention to the human mechanics of production as contrasted with machines and material. He is perceiving more clearly the economic disadvantage which results from ignorance, disease, stupidity, and lack of dexterity among workers, and especially from his own lack of recognition of the opportunities and responsibilities of management.

EDUCATION AND INDUSTRIAL MANAGEMENT.

If, in the past, firms of standing have followed a shortsighted policy of disregarding the relation of business to public advantage and social gain in general, if wage expense has been confused with labor cost, that time is rapidly passing. The best type of industrial management to-day is recognizing the value of better schooling and is favoring the establishment of continuation classes, vocational schools, and prevocational training, and is insistent on providing means of instruction in the factory, the mercantile establishment, and the construction camp to meet the elementary needs of all, young or old, who for economic or other reasons have been obliged either to be deprived of school training or to leave school at an early age. Many large business firms have been impelled to introduce private classes and schools among their workers.

These new requirements in industrial management mark the inception of more intimate future relations between business managers, workers, and teachers. They imply recognition of the wage value of schooling and of the loss incurred through employment of ignorant labor even in simple mechanical and repetitive operations, because of the waste inherent in such labor and the risk to life and limb, material, and property in its employment.

If this conception of modern employment be well based, it requires industry and the public school to provide for present as well as for prospective wage earners such training as will result in a living wage worth.

Conventional school methods reach but few of the five and a half million illiterates. The workers' class was devised and put into operation primarily to give employed adult illiterates a chance to learn to read and write, but is applicable to other forms of industrial education of a more complex type. It is adapted to factories and can be used to advantage by workers in many industries and employments, by mine workers, farm hands, and domestic help. It has been introduced among office workers and in department stores. It is in successful operation on shipboard. A class has been conducted among non-English-speaking illiterate hotel workers.

The principle of the workers' class is that the public-school system shall furnish a teacher and school equipment; the industrial estab-

lishment shall provide a room in the place of employment and time *during the day* for instruction without loss of wage; and the workers themselves shall contribute their own effort during daylight hours under definite personal responsibility.

In the workers' class it is possible for any person of ordinary intelligence who has never learned to read or write in any language, and who can speak no English, to acquire a good working knowledge of 600 English words, ease in reading common prose, legible penmanship, and knowledge of simple arithmetic. The time needed is 60 hours, or 1 hour a day for 12 weeks, 5 days a week.

NIGHT SCHOOLS FOR WORKERS.

The natural query is, Can not night schools supply adequate instruction for adult illiterates?

In New York City in 1910 there were 261,058 illiterates over 14 years of age. The total number of foreign-born pupils who attended even *one* night or more was but 52,335, and only a minor portion of these were illiterate.

The night school in cities is largely impracticable among employees of factories. The problem in large cities is complicated. It differs from the problem in the mountains and on the farms, because workers can not go to evening schools. They are fatigued by their labor, not so much muscularly as nervously. Their work is more exacting, more intense, and more nervously exhausting. Although the hours are not so long as on the farm, eight or nine hours at most as a rule, the work is highly concentrated; it is often on machine operative processes, involving continuous application, in bad air, and poorly lighted. Conditions of living are crowded and insanitary, and sleep is not restful. Workers can not get from an evening school what they should.

Night schools are most desirable and give opportunities to some who can not spend the day hours in study. They appeal to men who are permanently in business and know that an education will advance their business interests; they attract the studious-minded, not the illiterate. The night school fails to reach large numbers of workers—and this is notably true of women in industry—who can be reached best by workers' cooperative day classes.

EXPERIMENTAL CLASS FOR ADULT WORKERS.

The workers' class begun in New York City in the spring of 1913 was an initial experiment in the effort to meet the school needs of adult industrial workers to the end that boards of education might assign thoroughly capable and expert public-school teachers to give instruction in industrial establishments to adults or those beyond

school age. In other words, where employers in any industry will allow workers time during the day without loss of wage and a place in the works for instruction, school authorities should provide experienced and thoroughly capable instructors—not young or substitute teachers—and meet the expense of instruction. In other cities employers are sending children under 16 back to school for a few hours a week without reduction of pay. In this experiment in New York City the pupils were over 16, as few girls under 16 are employed in the undermuslin industry.

It was also an effort to provide elementary schooling, not trade training, because trade training is not needed in industries where all work is done through certain operative processes easily learned within a few days in the factory itself and requiring only that expertness which must be acquired by working daily until "practice makes perfect."

This type of public school instruction, as adopted, was planned to meet the needs of those adults whose general intelligence had been repressed and starved through lack of schooling.

It is of prime importance that in instituting workers' classes for adults in industrial establishments stress should be laid on discovering and employing as teachers only those who are industrially minded and whose personality and teaching equipment are such as to grip the interest of undeveloped adult pupils whose minds are not plastic, whose attention is easily lost, and who are quickly wearied mentally. Moreover, the teacher must be a person of judgment, adaptability and poise—and nonpartisan, both socially and racially. The least bias of thought or feeling will find expression in words or acts and will militate seriously against success in an atmosphere of growing industrial democracy such as is characteristic of establishments sufficiently advanced to install a workers' class and cooperate with the public-school system.

Furthermore, the classroom should be in the establishment itself, preferably in a corner of a quiet workroom, in order that it may be associated in the minds of all with the industry itself and be permeated with the industrial atmosphere. Only by making the teaching a recognized part of the day's industrial routine can it gain the confidence and retain the interest of workers who contribute their effort and of managers who pay the cost.

It became clear from close study given to this class how hard it is to predetermine correctly proper modes of study for and modes of conducting workers' classes; wise methods can be selected only by experiment, analysis, and adaptation. Since similar cooperative classes are now being formed in other industries, as well as in mercantile establishments and construction camps, it is well to recognize possible pitfalls and errors.

I. At first it seemed reasonable to suppose that girls who had never been taught to read and write could be assigned to one group; that those who had been to school a few years in foreign countries could form another group; that those who had been to school in this country and knew a little English could form a third. It was soon found that the amount of prior schooling could not be taken as a basis for grouping. All grouping had to be determined by the degree of individual alertness, interest, application, ability to concentrate, and mental flexibility.

II. An observation allied to this is that methods of instruction and teachers adequate for pupils from 14 to 16 who have just left school may be failures in dealing with workers over 16, especially those who have been out of school for several years and who have lost entirely the habit or knack of study.

III. For the first few weeks, in general, the most striking characteristic in the class was a discouraging mental rigidity and listlessness. Girls became fatigued after 15 or 20 minutes of application to their books like young children. It was apparently more wearisome to them to try to read for 10 minutes than to work intensely and interestedly at dressmaking for an hour. They seemed stupid and inattentive after a few minutes of effort with pencil or book, although evidently ambitious and desirous to learn.

IV. In learning the educational needs of girls in the undermuslin industry, light is not necessarily thrown upon all the mental requirements of workers in other industries. To avoid costly errors, the institution of similar experimental classes under like intense and expert analysis would be the cheapest and surest mode of handling this educational problem in any industry. What girls in the undermuslin line need most might be least useful to girls employed on core making in foundries or selling goods over the counter. For instance, in some optical works only high-school girls are ever employed. Illiterates are seldom employed in department stores. Some factories will not employ foreigners; some employ only foreigners. Certain establishments wish only girls fresh from grammar school and living at home; others prefer older and steadier women, dependent on their own resources. The needs of men are almost radically different from those of women. Yet workers' classes are adapted to everyone engaged in industry—skilled or unskilled, literate or illiterate, alert or dull.

V. Another impressive deduction was the need of care of health, and particularly knowledge of physical handicaps. One-third of the girls in this group, chosen at random, had eye defects which would make it impossible for them ever to earn more than a bare living wage while working on white goods. Such girls might easily make much more money as waitresses, or doing almost any work which

does not require accurate vision. Such special handicaps are not only costly to the industry, but prevent the worker from earning a proper livelihood and are the frequent cause of the low and stationary wage. It would be to the financial advantage of every worker and every industry to know by health examinations what physical disabilities interfere with productive wage advancement in any given job. Labor organizations having the larger wage at heart should exert every effort to compel the institution of such examinations, as a matter of fair play and justice to the workers. Managers should institute such examinations, as a means of avoiding discouragement, waste, and discontent. The cloak, suit, and skirt industry, at the initiative of their own workers, have completed thorough health examinations for 4,500 men and women workers in New York City.

WORKERS' CLASS FOR ADULT ILLITERATES.

As the direct outcome and intentional sequence of the experimental class, by authorization of the school authorities, in September, 1913, Miss Lizzie E. Rector, principal of Public School No. 4, deputed Miss Florence D. Myers, who had been in charge of the experimental class, to teach 40 girls in the factory of D. E. Sicher & Co., makers of muslin undergarments, 45 West Twenty-first Street, New York City.

These girls were mainly those who had never learned to read or write in any language, and comprised all the illiterates in the factory force of 400, or about 10 per cent. The girls were assigned to two groups, one being taught from October to February, the other from February to June. The groups were divided into sections of six or seven each, and each section was taught daily for a period of 45 minutes, except on Saturdays. In this way every illiterate girl in the factory at the time received nearly individual instruction in English, reading, writing, arithmetic, American history, geography, personal hygiene, and practical information about food, fire protection, and the evolution of the undergarment. Practice was given in the writing of letters of a friendly and business nature; keeping expense accounts and budgets, and in making out workslips and reports; the girls learned the practical application in daily life of adding, subtracting, multiplying, and dividing. They were taught how to deposit money in the savings bank and how to draw it out.

Miss Myers took pains herself to sit at the various machines and get the forewomen to instruct and correct her, making note of all their phrases and afterwards using them in the early lessons in English. In teaching English, practice was given in the use of the telephone book, the city directory, and how to write telegrams. The girls learned about the mail service, how to send letters abroad, the common routes of travel in New York City, and local ordinances. They were given practical and simple rules for safety and health.

It was obvious, as the weeks passed by, that the lessons in personal hygiene, physical culture, right breathing, and eating were taking effect. The eyes of the girls were getting brighter, the skins clearer, the minds more alert and receptive, and better taste and judgment were shown in dress. From being apathetic, they became interested, eager, and willing to work hard.

In no sense would this be termed welfare or philanthropic work, inasmuch as in the records of the firm the girl students gained from 20 to 70 per cent in working efficiency, and the girls themselves not only attained new hopefulness, ambition, and courage, but increased

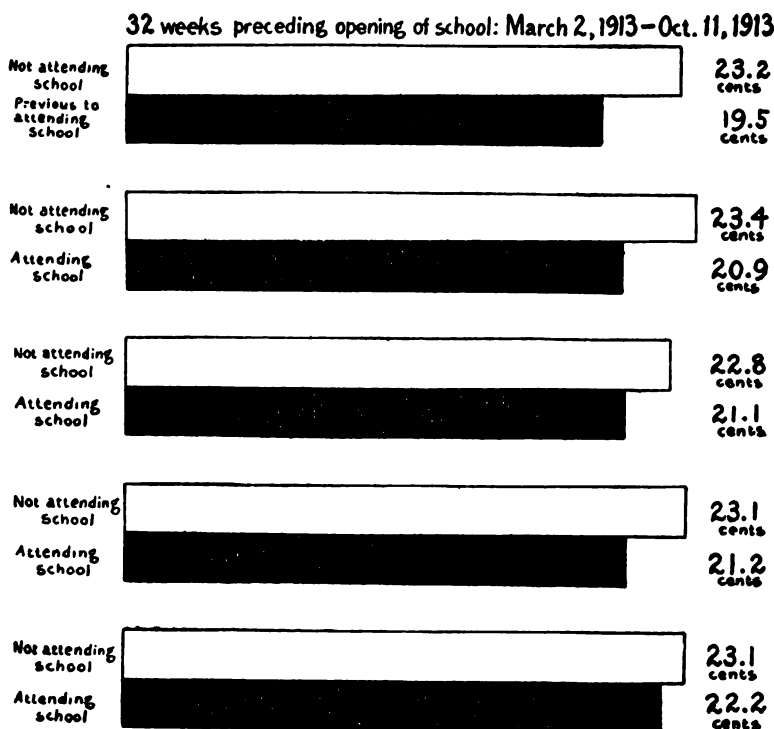


CHART 7.—Increased earnings of factory workers, D. E. Sicher & Co.

their earnings from an average of 19.5 cents per hour to 22.2 cents per hour, while the earnings of those who could not avail themselves of the class instruction remained practically unchanged.

The following account of the class was furnished by Miss Lizzie E. Rector, principal of Public School No. 4, Manhattan:

The girls who attended the school the first year were selected on a basis of illiteracy. Some had never been in a school at any time in their lives. Others had, for brief periods, attended school in remote districts of Russia, Poland, and Italy. Some, since their arrival in New York, had made an effort to gain what had been denied them at home, by going to night schools after working in the factory all day. This proved to be such a tax on their strength that most of them finally gave up the attempt.

During the past year 40 girls have received instruction. These were divided into two classes of 16 each and one of 8. These classes were then subdivided into groups of three or four girls each, each group receiving instruction for 45 minutes daily. They were taught to read, to write, and to keep a personal expense account as a part of the course in arithmetic. As the girls were engaged in the factory on piecework, the firm paid them while attending school the amount they would earn if actually at work, so that at the end of the week they received full pay.

The results of the first year's work in the classes have been highly satisfactory to Mr. Dudley D. Sicher, through whose initiative the school was established. A careful examination of the teachers' and the factory's reports shows that the earning capacity of the girls has been increased from 10 to 40 per cent. This result is in accordance with the established educational principle that increased intelligence creates increased efficiency, and increased efficiency produces increased earning capacity.

Not only have the girls gained in knowledge and earning power, but their ambition has been aroused; they have a keen sense of the distinction between right and wrong; and they are imbued with a better spirit.

COURSE OF STUDY OF THE ILLITERATE WORKERS' CLASS.

I. English Language:

- (1) Reading.
- (2) Spelling.
- (3) Writing.
- (4) Geography.
- (5) Methods of communication—
 - a. Correspondence—
Business letters.
Social letters.
Post-office regulations.
 - b. Telephoning.
 - c. Telegraphing.

II. Hygiene:

- (1) Personal cleanliness.
- (2) Physical culture (gymnastics).
- (3) Food—choice, food value, cooking, serving.
- (4) Emergencies, treatment of injured.

III. Civics:

- (1) Systems of government—
 - a. Merits of democratic government.
 - b. Patriotism.
 - c. Citizenship.
- (2) History—
 - a. Origin of legal holidays.
 - b. Lives of statesmen.

IV. Mathematics:

- (1) Four fundamental operations in arithmetic.
- (2) Tables of weights and measures.
- (3) Money; bills and currency.
- (4) Work reports.
- (5) Personal expense accounts.
- (6) Bank accounts.

V. Practical application of language:

- (1) Evolution of an undergarment—
 - a. Growth of cotton plant.
 - b. Manufacture—
Spinning operation.
Bleaching.
 - c. Weaving.
 - d. Shipping.
- (2) Alphabet as a guide to common things—
 - a. Advertisements.
 - b. Dictionary.
 - c. Directory.

At the close of the course in June, graduation exercises were held and public-school certificates of literacy were presented to each member of the class.

From time to time interested visitors, educators, and employers visited the class. It attracted attention and favorable notice in the daily press throughout the whole country, with the result that other employers have been stimulated to establish similar classes, especially in department stores for literate girls.

CLASS IN ELEMENTARY ENGLISH FOR FOREIGNERS AT BAYONNE, N. J.

As a result of the success of the class for girls in the white-goods industry, a similar class for illiterate men was installed by Mr. Arthur B. Jones, superintendent of the General Chemical Works at Bayonne, N. J. The following account is from a report rendered by Mr. Charles S. Havens to the superintendent of schools.

The class met four days per week, from 3 to 5 p. m., in the welfare building of the works, for 64 evenings during the past winter. Each pupil present attended one hour at each session. Owing to delays in getting the building and equipment ready, the class did not begin until October 26, 1914.

Attendance was voluntary and out of the men's own time. Convenient opportunity to attend was arranged for the men, and they were encouraged to do so, but no pressure was exerted upon them, and they were not paid while in the class. Suitable equipment of chairs, tables, blackboard, etc., was supplied by the company. As I had had no experience in this phase of education, I took it up with some hesitation, which rapidly gave way to enthusiasm and interest as the work progressed.

During the few weeks intervening between my appointment and the opening of the class I endeavored to prepare myself for the task which I had undertaken. After some deliberation I selected from several apparently good textbooks one which was said to have been used by others with excellent results, entitled "A First Reader for New American Citizens," by Mintz. Macmillan.

The class began with 18 men, between 20 and 50 years of age. They were all Polish, most of them could speak no English, and the few who, as I later judged, could speak or understand it a little gave no evidence of such ability at first. I did not know any Polish. One man could speak German and was very useful to me in getting acquainted and starting the work of the class.

The Polish vocabulary has practically no resemblance to English or other tongues commonly studied in this country, so far as I have discovered. A dozen random words may serve to show how "foreign" Polish looks to an English student:

for	equals	gdyz	September	equals	Wrzesien
with	equals	z	Monday	equals	Poniedzialek
if	equals	jezeli	teacher	equals	nauczyciel
up	equals	wgore	four	equals	cztery
blue	equals	niebieski	I am	equals	jestem
red	equals	czerwony	to come	equals	przyjs6

The men's names were so difficult to spell that often they themselves did not apparently know how to spell them, and so nearly unpronounceable to Americans that no one in the works pretended to use them. The men were known officially by check numbers and colloquially by American names. Thus, Ignatzi Krasczewski, the best scholar in the class, was officially known as "No. 149," and familiarly called Frank by his "boss."

Like pupils everywhere, they differed widely in aptness, personality, eagerness, mentality, alertness, and capacity. At first, however, it was difficult to learn much about them, and particularly to find effective means of approach to their minds.

They seemed like adult infants, who could not understand or repeat accurately the simplest English words. A further obstacle was their attitude; they were impassive, unresponsive, not sullen, but diffident and embarrassed, bashful, seemingly ashamed to display their ignorance, and also much in awe of the teacher and of the English language.

The textbook so carefully selected soon proved uninteresting and difficult. Progress with it was slow. The methods did not seem to work well. Anything in the nature of theory, even the simplest, went over their heads. They yawned.

Oral work, object lessons, concert exercises, etc., went much better, but were very fatiguing to the teacher. At my suggestion the superintendent of the works, who was at all times very kind, sympathetic, and helpful, and very eager for the success of the class and the teacher, ordered another set of books: "A New Reader for Evening Schools," adapted for foreigners. Hinds and Noble.

This book was much easier, with coarse type, and very practical and simple, and contained an appendix of several hundred common Polish and English words arranged in groups in parallel columns. The class took to this book at once and liked it very much. The Polish-English vocabulary was very serviceable and useful for a time in breaking down the diffidence of the men and in getting them to make an earnest effort to speak the English words. Some could read the Polish words fairly well; the rest could recognize and repeat them aloud; and all readily repeated the English equivalents after me with enthusiasm, and were thus encouraged to speak out and forget themselves.

Object lessons based on articles in the room, simple movements, and especially on parts of the human body, "This is my face," "This is my arm," etc., with innumerable variations and repetitions which never seemed to grow tiresome to the class, were helpful. Concert exercises in the simplest arithmetic and number work were useful in arousing a spirit of effort and mental activity. For weeks I could employ only the simplest additions, which did not require "carrying." At first subtraction was beyond them. In time many developed the ability to add and "carry," to subtract and to multiply readily by 2, 3, 4, and 5. Even to the end of the course it was difficult to get them individually to answer freely. They seemed bashful; and if they made a mistake or were slow, they were afraid of being laughed at by their mates. A few finally overcame this, but some did not.

Soon they began to read, at first only the simplest sentences.

I walk	You walk	He walks	She walks
I run	You run	I have a book	You have a book, etc.
I stand	You stand		
I sit	You sit		

Thus we labored for weeks with increasing pleasure and enthusiasm and with increasing success. The pupils seemed to think they were progressing and evidently recommended the class to their friends. For two weeks I had only 18 on the roll; the third week, 25; the fourth week, 27; the fifth week, 32. At this time, for several reasons which seemed good and cogent to me, I advised the superintendent not to encourage any more men to join the class this year.

The men work in shifts (for the plant runs day and night) and attended the class either at the end or beginning of their day's work. Occasionally they would be working at night and absent from the class for a week at a time. Those who attended at the end of a day's work were often weary in body and mind. All things considered, the attendance was good and fairly regular, and the interest and enthusiasm increasingly keen.

At first I mingled work in pronouncing, reading, writing, numbers, talking, answering questions, etc., but it was soon clear that to develop any real approach to proficiency in the short time at my disposal (less than 64 hours for any one man, which

is equal to less than 8 days of solid work), the effort must be confined to a smaller field, chiefly to teaching the class to read aloud and to understand and answer questions, partly because this seemed the wisest plan and the quickest avenue to progress, and partly because it seemed most interesting and attractive to the class.

The attendance continued good until late in February, and the progress of the best students was very gratifying. The superintendent of the works then decided to give a modest promotion to one of the best pupils, partly on the supposition that it would serve as an encouragement and incentive. To our surprise, it offended many of the class. One man was so displeased that he "called for his time" and left the works. Many others were disaffected, and all but nine ceased attending the class. Many of these had been irregular in attendance and had made but little progress. The nine who continued were among the most regular, diligent, attentive, and apt.

The class continued about three weeks more, completing 64 nights with these nine men, who advanced rapidly, being unhindered by the slower ones. At the end of the course most of them could understand and respond to spoken English quite readily. Most of them could read the easy text of the primer very well; some, with gratifying fluency and a full and ready comprehension of the sense, could see the point of a joke or anecdote, and tell in their own words the substance of the story read. Some could write freely and legibly, nearly all could add, subtract, and multiply with considerable readiness.

These are some of the concrete results attained by this class. Other results, even more valuable and precious, though difficult to catalogue or measure were also achieved. Most of these men had their minds awakened, and their hearts and spirits stirred, and their ambition aroused, as never before. They were much different from what they were five months ago. Some of them say they daily try to read the "Merican" paper. Their "boss" states that a greater alertness and a keener intelligence is apparent in them and that they go about their work with more zeal and zeal.

I believe that for the first time in their lives they realize that they may be of America as well as in it. At our last lesson the class sang "America," reading the words from the book and following the melody with me. Their manner and mien evinced to me a reverence for that noble hymn, a pride in the Americanism that they felt conscious of possessing, well worth, in my judgment, all the effort that had been made to teach them. They left me with abundant evidence of gratitude for what had been done for them, and of regret that the class was ending, and expressed the hope that the class would continue next year. The work from the teacher's point of view is hard, fatiguing, and wearing, but very pleasurable.

The results, if measured concretely in the fluency with which they read or talk, may be comparatively slight and in some cases even disappointing, but the larger results, the intellects awakened, the ambitions spurred, the possibilities put before them and made real to them, the yearning for better things, the realizing that the opportunities and privileges of America are within their reach, are, I believe, real and precious.

On better acquaintance with these men I began to realize how little apparently had ever been done for them in the past. Apparently no one, either in Europe or America, had taken a deep or genuine interest in them as persons or individuals. Most of them had had almost no schooling. Though many had been in America many years, no one had apparently ever tried to teach them to read or talk our language. Not one man was a citizen or knew how to become one, or had ever had anyone suggest it to him as far as I could learn.

Half of them were married, and most of these have two, three, or four children. They work at night, days and holidays the year round. They do hard, rough labor in all weathers for a wage of about \$1.85 per day, modestly increased after years of experi-

ence. They are hearty, cheerful, and contented, and seem to think themselves fortunate and well used. Their conditions here are far superior to those they left in Europe. They do not complain and do not seem to think they have anything to complain of, and seem very grateful for whatever is done for them. They are treated very kindly, considerately, and generously by their employers, whom they seem to like and respect and esteem very much.

Of the class, 16 were between 20 and 30 years old; 11, between 30 and 40 years old; 2, between 40 and 50 years old; and 1 was 50 years old.

The youngest ones, as a rule, took the least interest in the class work and were the poorest students. Those between 30 and 50, mostly with wives and families, were, generally speaking, most eager, earnest, and attentive, and made the most progress.

There were 64 lessons. The best student attended 63 times; 8 attended 58 or more times; 2 between 40 and 50 times; 2 between 30 and 40 times; 11 between 20 and 30 times; 9 between 10 and 20 times; and 1 attended 10 times. The average attendance for the whole course was 16.1. As several joined the class late and several abandoned it before it ended, the attendance was really better than the above would indicate.

Mr. Havens's recommendations were as follows:

1. The work was valuable to the class, and worth both to them and to our city and State much more than it cost.
2. The assistance, encouragement, enthusiasm, and cooperation of the superintendent of the plant was most valuable and helpful.
3. The work should be continued and enlarged; at least an advanced and another beginning class should be conducted at the chemical works next winter.
4. Similar classes ought to be organized in other large industrial concerns and perhaps elsewhere among the non-English-speaking residents of the city.
5. The opinion which is occasionally expressed that "little or nothing can be done to educate or Americanize adult foreigners" is not based on a knowledge of the conditions or an acquaintance with the people.

STATISTICS OF RECENT IMMIGRANT ILLITERACY.

AFRICAN (black). WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	714	414	300	162	552	132	23.9	.....	.....
1901.....	594	299	295	120	474	180	38.0	.....	.....
1902.....	832	492	340	163	669	142	21.2	.....	.....
1903.....	2,174	1,649	625	242	1,932	627	32.4	.....	.....
1904.....	2,386	1,537	849	306	2,080	485	23.3	.....	.....
Total.....	6,700	4,291	2,409	1,993	5,707	1,566	27.5	.....	.....
1905.....	3,598	2,325	1,273	433	3,165	499	15.8	.....	.....
1906.....	3,786	2,355	1,431	346	3,440	422	12.3	.....	.....
1907.....	5,235	3,332	1,903	500	4,735	770	16.3	.....	.....
1908.....	4,626	2,839	1,787	421	4,205	839	20.0	648	191
1909.....	4,307	2,601	1,706	341	3,966	889	22.4	681	208
Total.....	21,552	13,452	8,100	2,041	19,511	3,419	17.5	1,329	399
1910.....	4,966	2,981	2,005	449	4,517	838	18.6	643	195
1911.....	6,721	4,086	2,635	593	6,128	1,298	20.2	964	275
1912.....	6,750	3,828	2,921	614	6,145	1,226	20.0	913	312
1913.....	6,634	3,691	2,943	565	6,069	930	15.3	677	263
1914.....	8,447	4,901	3,546	718	7,729	1,805	23.3	1,388	417
Total.....	33,527	19,467	14,060	2,989	30,538	6,038	19.9	4,585	1,453
Grand total.....	61,779	37,210	24,569	5,973	55,806	11,023	19.8	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Continuous residence in United States.
1908.....	889	645	244	51	838	719
1909.....	1,027	743	284	70	957	874
Total.....	1,916	1,388	528	121	1,795	1,593
1910.....	926	626	300	73	853	644
1911.....	913	598	315	59	854	748
1912.....	1,288	898	395	79	1,209	950
1913.....	1,671	1,127	544	137	1,534	1,245
1914.....	1,805	1,195	610	117	1,688	1,422
Total.....	6,603	4,439	2,164	465	6,138	5,009

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	3,737	2,194	1,543	370	3,367
1909.....	3,280	1,858	1,422	271	3,009
Total.....	7,017	4,052	2,965	641	6,376
1910.....	4,040	2,335	1,705	276	3,664
1911.....	5,808	3,488	2,320	524	5,274
1912.....	5,471	2,985	2,536	535	4,936
1913.....	4,993	2,564	2,399	428	4,565
1914.....	6,642	3,706	2,936	601	6,041
Total.....	26,924	15,028	11,896	2,474	24,450

ARMENIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illit- erate over 14.	Per cent illit- erate.	Male illit- erate.	Female illit- erate.
1900.....	982	748	234	110	872	213	24.4	.....	.....
1901.....	1,855	1,364	491	242	1,613	346	21.5	.....	.....
1902.....	1,151	946	205	115	1,036	234	22.6	.....	.....
1903.....	1,750	1,424	325	150	1,600	444	27.6	.....	.....
1904.....	1,745	1,315	430	238	1,507	330	21.9	.....	.....
Total.....	7,492	5,797	1,695	855	6,637	1,567	23.5	.....	.....
1905.....	1,878	1,339	539	246	1,632	310	19.0	.....	.....
1906.....	1,865	1,423	442	223	1,642	460	27.5	.....	.....
1907.....	2,644	1,874	770	371	2,273	546	24.0	.....	.....
1908.....	3,290	2,097	1,203	581	2,718	808	29.7	448	360
1909.....	3,108	2,565	543	191	2,917	658	22.6	538	120
Total.....	12,824	9,328	3,496	1,612	11,212	2,782	24.8	986	480
1910.....	5,508	4,686	822	389	5,119	1,193	23.2	1,010	183
1911.....	3,092	2,643	449	205	2,887	662	22.9	574	88
1912.....	5,222	4,476	746	290	4,932	1,180	24.1	1,007	182
1913.....	9,353	7,893	1,460	718	8,635	2,257	26.1	1,839	418
1914.....	7,785	6,533	1,252	538	7,247	2,116	29.2	1,767	349
Total.....	30,960	26,281	4,729	2,140	28,820	7,417	25.8	6,197	1,220
Grand total.....	51,276	41,356	9,920	4,607	46,669	11,786	25.2	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1906.....	234	221	13	2	232	151
1909.....	541	490	51	19	522	322
Total.....	775	711	64	21	754	473
1910.....	521	492	29	14	507	335
1911.....	999	901	98	33	966	650
1912.....	718	682	36	16	702	427
1913.....	676	640	36	4	672	415
1914.....	1,250	1,199	51	9	1,241	914
Total.....	4,164	3,914	250	76	4,088	2,741

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1906.....	3,065	1,876	1,189	579	2,486
1909.....	2,567	2,105	462	172	2,395
Total.....	5,632	3,981	1,651	751	4,881
1910.....	4,987	4,194	793	375	4,612
1911.....	2,093	1,742	351	172	1,921
1912.....	4,504	3,794	710	274	4,230
1913.....	8,677	7,253	1,424	714	7,963
1914.....	6,535	5,334	1,201	529	6,006
Total.....	26,796	22,317	4,479	2,064	24,732

BOHEMIAN AND MORAVIAN (CZECH).

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	3,060	1,562	1,498	598	2,467	76	3.0		
1901.....	3,766	1,943	1,823	757	3,009	45	1.5		
1902.....	5,590	3,278	2,312	1,026	4,565	74	1.6		
1903.....	9,591	5,820	3,771	1,856	7,735	123	1.6		
1904.....	11,911	6,657	5,254	2,094	9,217	170	1.8		
Total.....	33,918	19,260	14,658	6,925	26,993	487	1.8		
1905.....	11,757	6,662	5,096	2,820	9,137	155	1.7		
1906.....	12,958	7,418	5,540	2,678	10,280	180	1.7		
1907.....	13,554	8,142	5,412	2,539	11,015	231	2.1		
1908.....	10,164	5,496	4,669	2,216	7,948	124	1.6	62	62
1909.....	6,850	3,998	2,852	1,440	5,410	81	1.5	42	39
Total.....	55,283	31,715	23,568	11,493	43,790	771	1.7	104	101
1910.....	8,463	4,874	3,588	1,503	6,959	81	1.2	40	41
1911.....	9,223	5,214	4,009	1,748	7,475	130	1.7	92	38
1912.....	8,439	4,565	3,874	1,610	6,829	84	1.2	20	64
1913.....	11,061	6,328	4,765	2,006	9,055	96	1.1	52	44
1914.....	9,928	5,367	4,561	1,972	7,956	101	1.3	49	52
Total.....	47,143	26,348	20,795	8,839	38,304	492	1.3	253	239
Grand total.....	136,344	77,323	59,021	27,267	109,087	1,750	1.6		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,051	755	296	58	993	810
1909.....	699	449	250	55	644	606
Total.....	1,750	1,204	546	113	1,637	1,415
1910.....	943	601	342	49	894	735
1911.....	1,208	806	402	76	1,132	911
1912.....	1,149	780	369	59	1,090	807
1913.....	871	545	326	30	841	506
1914.....	1,011	638	373	55	956	699
Total.....	5,182	3,370	1,812	269	4,913	3,658

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	9,113	4,640	4,473	2,156	6,955
1909.....	6,151	3,549	2,602	1,385	4,766
Total.....	15,264	8,189	7,075	3,543	11,721
1910.....	7,519	4,273	3,246	1,454	6,065
1911.....	8,015	4,408	3,607	1,672	6,343
1912.....	7,290	3,785	3,505	1,551	5,739
1913.....	10,220	5,783	4,437	1,976	8,244
1914.....	8,917	4,729	4,188	1,917	7,000
Total.....	41,061	22,978	18,083	8,570	33,391

BULGARIAN, SERVIAN, AND MONTENEGRIN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	204	200	4	1	208	73	36.0	.....	.....
1901.....	611	499	112	54	557	212	38.1	.....	.....
1902.....	1,291	1,202	89	30	1,261	474	37.6	.....	.....
1903.....	6,479	6,315	164	74	6,405	2,800	44.6	.....	.....
1904.....	4,577	4,385	192	76	4,501	2,042	45.4	.....	.....
Total.....	13,162	12,601	561	235	12,927	5,661	43.8	.....	.....
1905.....	5,823	5,562	261	97	5,726	2,225	38.9	.....	.....
1906.....	11,548	11,104	444	224	11,324	4,735	41.8	.....	.....
1907.....	27,174	26,423	751	296	26,878	12,036	44.8	.....	.....
1908.....	18,246	17,416	830	339	17,907	6,389	35.7	6,067	332
1909.....	6,214	5,756	458	211	6,003	2,794	46.5	2,631	163
Total.....	69,005	66,261	2,744	1,167	67,838	28,179	41.5	8,688	495
1910.....	15,130	14,253	877	368	14,762	6,155	41.7	5,828	327
1911.....	10,222	9,485	737	339	9,883	2,984	30.2	2,774	210
1912.....	10,657	9,626	1,031	453	10,204	3,352	32.9	3,010	342
1913.....	9,087	7,834	1,253	500	8,587	2,940	34.5	2,516	424
1914.....	15,084	13,465	1,619	689	14,395	3,291	22.9	2,775	516
Total.....	60,180	54,663	5,517	2,429	57,751	18,722	32.4	16,903	1,819
Grand total.....	142,347	133,525	8,822	3,831	138,516	52,562	37.9	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	5,965	5,843	122	23	5,943	5,540
1909.....	2,312	2,235	77	31	2,281	2,175
Total.....	8,277	8,078	199	53	8,224	7,715
1910.....	2,720	2,606	114	24	2,696	2,399
1911.....	6,472	6,250	222	53	6,419	5,786
1912.....	7,349	7,142	207	39	7,310	6,069
1913.....	13,525	13,222	303	66	13,459	10,628
1914.....	5,780	5,461	319	84	5,696	4,528
Total.....	35,846	34,681	1,165	266	35,580	29,410

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	12,281	11,573	708	317	11,964
1909.....	3,902	3,521	381	180	3,722
Total.....	16,183	15,094	1,089	497	15,686
1910.....	12,410	11,647	763	364	12,046
1911.....	3,750	3,235	515	286	3,464
1912.....	3,308	2,484	824	414	2,894
1913.....	-4,438	-5,388	950	494	-4,932
1914.....	9,304	8,004	1,300	605	8,699
Total.....	24,334	19,982	4,352	2,163	22,171

CHINESE.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	1,250	1,241	9	6	1,244	17	1.4	.....	.....
1901.....	2,452	2,413	39	56	2,396	164	6.8	.....	.....
1902.....	1,631	1,587	44	29	1,602	68	4.2	.....	.....
1903.....	2,192	2,152	40	32	2,160	280	13.0	.....	.....
1904.....	4,327	4,209	118	90	4,237	348	8.2	.....	.....
Total.....	11,852	11,602	250	213	11,639	877	7.5	.....	.....
1905.....	1,971	1,893	88	28	1,943	98	5.0	.....	.....
1906.....	1,485	1,397	88	67	1,418	80	5.6	.....	.....
1907.....	770	706	64	85	685	51	7.5	.....	.....
1908.....	1,263	1,177	86	150	1,113	103	9.2	71	32
1909.....	1,841	1,706	135	232	1,609	207	12.9	138	69
Total.....	7,330	6,899	461	562	6,768	539	8.0	109	101
1910.....	1,770	1,598	172	221	1,549	243	15.7	153	90
1911.....	1,307	1,124	183	112	1,195	129	10.8	50	79
1912.....	1,608	1,367	241	207	1,401	171	12.2	8	163
1913.....	2,022	1,692	330	189	1,833	221	12.1	16	205
1914.....	2,354	2,052	302	144	2,210	170	7.7	12	188
Total.....	9,061	7,833	1,228	873	8,188	934	11.4	229	695
Grand total.....	28,243	26,304	1,939	1,648	26,696	2,350	8.8	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	3,898	3,760	138	33	3,865	677
1909.....	3,397	3,325	72	30	3,367	340
Total.....	7,295	7,085	210	63	7,232	1,017
1910.....	2,383	2,334	49	57	2,326	226
1911.....	2,716	2,660	56	11	2,705	251
1912.....	2,549	2,483	66	6	2,543	345
1913.....	2,250	2,204	46	2	2,248	227
1914.....	2,059	2,006	54	7	2,052	304
Total.....	11,967	11,696	271	83	11,874	1,353

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-2,635	-2,583	-52	117	-2,752
1909.....	-1,556	-1,619	63	202	-1,758
Total.....	-4,191	-4,202	11	319	-4,510
1910.....	-613	-736	123	164	-777
1911.....	-1,409	-1,536	127	101	-1,510
1912.....	-941	-1,116	175	201	-1,142
1913.....	-228	-512	284	187	-415
1914.....	265	47	248	137	158
Total.....	-2,896	-3,853	957	790	-3,696

CROATIAN AND SLOVENIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	17,184	14,934	2,250	667	16,517	6,174	37.4	.....	.....
1901.....	17,928	15,492	2,436	745	17,183	6,814	39.7	.....	.....
1902.....	30,233	27,097	3,136	989	29,244	12,355	42.2	.....	.....
1903.....	32,907	29,222	3,685	1,111	31,796	11,179	35.2	.....	.....
1904.....	21,243	17,644	3,598	1,226	20,017	7,220	36.1	.....	.....
Total.....	119,494	104,389	15,105	4,737	114,757	43,742	38.1	.....	.....
1905.....	35,104	30,283	4,821	1,383	33,721	12,875	38.2	.....	.....
1906.....	44,372	38,287	5,985	1,674	42,698	17,017	40.0	.....	.....
1907.....	47,626	40,538	7,288	1,994	45,632	16,786	36.4	.....	.....
1908.....	20,472	15,476	4,996	1,567	18,905	5,676	30.0	4,470	1,206
1909.....	20,181	15,710	4,471	1,258	18,923	5,437	28.7	4,479	958
Total.....	167,855	140,264	27,591	7,576	160,279	57,791	36.0	8,949	2,164
1910.....	39,563	32,947	6,615	1,855	37,707	12,662	33.6	11,127	1,535
1911.....	15,983	13,466	2,516	1,587	17,396	4,500	25.9	3,366	1,124
1912.....	24,366	17,383	6,983	2,063	22,303	6,146	27.6	4,550	1,586
1913.....	42,499	31,590	10,909	3,422	39,077	9,983	25.2	6,703	2,279
1914.....	37,284	26,877	10,407	3,511	33,773	7,874	23.3	8,560	2,314
Total.....	162,693	122,263	40,430	12,438	150,255	40,264	26.8	31,306	8,968
Grand total.....	450,042	366,916	83,126	24,751	425,291	141,797	33.3	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	28,589	26,753	1,836	422	28,167	23,053
1909.....	8,981	7,861	1,120	287	8,694	7,781
Total.....	37,570	34,614	2,956	709	36,861	30,839
1910.....	7,133	6,110	1,023	281	6,852	5,746
1911.....	13,735	12,245	1,490	316	13,419	10,479
1912.....	13,963	12,529	1,434	256	13,707	8,832
1913.....	10,209	9,068	1,141	146	10,063	6,144
1914.....	14,440	12,790	1,650	224	14,216	9,976
Total.....	59,480	52,772	6,708	1,223	58,257	41,177

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-8,117	-11,277	3,160	1,145	-9,262
1909.....	11,200	7,849	3,351	971	10,229
Total.....	3,083	-3,428	6,511	2,116	967
1910.....	32,429	26,837	5,592	1,574	30,855
1911.....	5,247	1,221	4,026	1,271	3,976
1912.....	10,408	4,854	5,554	1,807	8,596
1913.....	32,280	22,492	9,788	3,276	28,014
1914.....	22,844	14,067	8,757	3,287	19,557
Total.....	103,213	69,491	33,722	11,215	91,996

CUBAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	2,678	1,763	915	590	2,079	142	6.8	.....	.....
1901.....	1,622	1,019	603	360	1,262	119	9.4	.....	.....
1902.....	2,423	1,633	730	485	1,938	156	8.0	.....	.....
1903.....	2,944	1,945	999	610	2,334	97	4.2	.....	.....
1904.....	4,811	3,346	1,465	913	3,898	337	8.6	.....	.....
Total.....	14,478	9,766	4,712	2,967	11,511	851	7.4	.....	.....
1905.....	7,259	4,925	2,334	1,346	5,913	457	7.7	.....	.....
1906.....	5,591	3,799	1,822	963	4,628	216	4.6	.....	.....
1907.....	5,475	3,747	1,728	790	4,685	567	12.1	.....	.....
1908.....	3,323	2,339	984	445	2,878	73	2.5	41	32
1909.....	3,380	2,322	1,058	536	2,844	58	2.0	37	21
Total.....	25,028	17,102	7,926	4,080	20,948	1,371	6.5	78	53
1910.....	3,331	2,342	989	550	2,781	114	4.1	65	49
1911.....	3,914	2,762	1,152	585	3,329	82	2.5	42	40
1912.....	3,155	2,098	1,057	455	2,700	57	2.1	27	30
1913.....	3,099	2,126	973	396	2,703	39	1.4	16	23
1914.....	3,539	2,452	1,087	488	3,051	48	1.5	26	22
Total.....	17,088	11,780	5,258	2,474	14,564	340	2.3	176	164
Grand total.....	56,544	38,648	17,896	9,521	47,023	2,562	5.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	2,069	1,340	749	360	1,729	1,939
1909.....	1,243	852	391	186	1,057	1,154
Total.....	3,332	2,192	1,140	546	2,786	3,093
1910.....	1,556	1,085	471	226	1,330	1,482
1911.....	2,234	1,531	703	284	1,950	2,088
1912.....	1,963	1,377	586	303	1,660	1,817
1913.....	1,264	835	429	163	1,101	1,072
1914.....	947	659	288	118	829	830
Total.....	7,964	5,487	2,477	1,094	6,870	7,279

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	1,284	999	285	85	1,149
1909.....	2,137	1,470	667	350	1,787
Total.....	3,371	2,469	902	435	2,936
1910.....	1,775	1,257	518	324	1,451
1911.....	1,680	1,281	449	301	1,379
1912.....	1,192	721	471	152	1,040
1913.....	1,835	1,291	544	233	1,602
1914.....	2,592	1,793	799	370	2,222
Total.....	9,074	6,293	2,781	1,380	7,694

DALMATIAN, BOSNIAN, AND HERZOGOVINIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	675	637	38	37	638	212	33.2		
1901.....	732	630	102	40	692	202	29.2		
1902.....	1,004	895	109	45	959	343	35.8		
1903.....	1,736	1,544	192	33	1,703	406	23.8		
1904.....	2,036	1,904	132	47	1,989	708	35.6		
Total.....	6,183	5,610	573	202	5,981	1,871	31.3		
1905.....	2,639	2,489	150	62	2,577	991	38.5		
1906.....	4,568	4,340	228	77	4,491	1,988	44.3		
1907.....	7,393	7,061	332	109	7,284	3,618	49.7		
1908.....	3,747	3,379	368	115	3,632	1,615	44.5	1,476	139
1909.....	1,888	1,617	271	80	1,808	634	35.0	551	83
Total.....	20,235	18,892	1,343	443	19,792	8,846	44.8	2,027	222
1910.....	4,911	4,453	458	173	4,738	1,867	39.4	1,090	108
1911.....	4,400	3,809	591	175	4,225	1,797	42.5	1,599	198
1912.....	3,672	3,152	520	130	3,542	1,420	40.1	1,250	170
1913.....	4,530	3,938	592	159	4,381	2,066	47.4	1,857	209
1914.....	5,149	4,437	712	206	4,943	2,366	47.8	2,138	228
Total.....	22,652	19,789	2,863	843	21,809	9,516	43.7	8,543	973
Grand total.....	49,070	44,291	4,779	1,488	47,582	20,233	42.5		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,046	999	47	21	1,025	847
1909.....	515	477	38	15	500	439
Total.....	1,561	1,476	85	36	1,525	1,286
1910.....	432	410	22	9	423	366
1911.....	935	873	62	21	914	765
1912.....	927	893	34	7	920	653
1913.....	849	824	25	5	844	690
1914.....	878	847	31	7	871	563
Total.....	4,021	3,847	174	49	3,972	2,927

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	2,701	2,380	321	94	2,607
1909.....	1,373	1,140	233	65	1,308
Total.....	4,074	3,520	554	159	3,915
1910.....	4,479	4,043	436	164	4,315
1911.....	3,465	2,936	529	154	3,311
1912.....	2,745	2,259	486	123	2,622
1913.....	3,671	3,114	557	154	3,517
1914.....	4,271	3,590	681	199	4,072
Total.....	18,631	15,942	2,689	794	17,837

DUTCH AND FLEMISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	2,702	1,765	937	704	1,998	190	9.5	.....	.....
1901.....	3,299	2,149	1,150	769	2,530	199	7.8	.....	.....
1902.....	4,117	2,745	1,372	956	3,161	240	7.6	.....	.....
1903.....	6,496	4,312	2,184	1,602	4,894	334	6.8	.....	.....
1904.....	7,832	5,191	2,641	1,693	6,139	253	4.1	.....	.....
Total.....	24,446	16,162	8,284	5,724	18,722	1,216	6.5	.....	.....
1905.....	8,498	5,693	2,805	1,699	6,799	363	5.3	.....	.....
1906.....	9,735	6,526	3,209	1,706	8,029	322	4.0	.....	.....
1907.....	12,467	8,362	4,105	2,560	9,907	417	4.2	.....	.....
1908.....	9,526	5,789	3,737	2,250	7,276	245	3.4	138	107
1909.....	8,114	5,131	2,983	1,757	6,357	163	2.6	117	46
Total.....	48,340	31,501	16,839	9,972	38,368	1,510	3.9	275	153
1910.....	13,012	8,742	4,270	2,630	10,382	282	2.7	193	89
1911.....	13,862	8,778	5,084	3,096	10,766	243	2.3	141	102
1912.....	10,935	6,808	4,127	2,352	8,583	159	1.8	86	73
1913.....	14,507	9,471	5,036	2,675	11,832	233	2.0	160	73
1914.....	12,566	7,737	4,829	2,400	10,166	217	2.1	121	96
Total.....	64,882	41,536	23,346	13,153	51,729	1,134	2.2	701	433
Grand total.....	137,668	89,199	48,469	28,849	108,819	3,860	3.5	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Over 14.	Under 14.	Resident not over 5 years.
1908.....	1,198	931	267	96	1,102	929
1909.....	727	527	200	69	658	612
Total.....	1,925	1,458	467	165	1,760	1,541
1910.....	1,192	828	364	107	1,085	839
1911.....	1,689	1,254	435	167	1,522	1,118
1912.....	1,816	1,301	515	194	1,622	1,122
1913.....	2,148	1,600	548	207	1,941	1,004
1914.....	2,252	1,605	647	194	2,058	1,396
Total.....	9,097	6,588	2,509	869	8,228	5,479

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Over 14.	Under 14.
1908.....	8,328	4,858	3,470	2,154	6,174
1909.....	7,387	4,604	2,783	1,688	5,699
Total.....	15,715	9,462	6,253	3,842	11,873
1910.....	11,820	7,914	3,906	2,523	9,297
1911.....	12,173	7,524	4,649	2,929	9,244
1912.....	9,119	5,507	3,612	2,158	6,961
1913.....	12,359	7,871	4,488	2,468	9,891
1914.....	10,314	6,132	4,182	2,206	8,108
Total.....	55,785	34,948	20,837	12,284	43,501

ADULT ILLITERACY.

EAST INDIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	9	8	1	0	9	1	11.1	.....	.....
1901.....	20	18	2	1	19	5	26.3	.....	.....
1902.....	84	82	2	3	81	4	4.9	.....	.....
1903.....	83	70	13	5	78	18	23.1	.....	.....
1904.....	258	241	17	18	240	76	31.7	.....	.....
Total.....	454	419	35	27	427	104	24.4	.....	.....
1905.....	145	137	8	2	142	17	12.0	.....	.....
1906.....	271	252	19	15	256	78	30.5	.....	.....
1907.....	1,072	1,056	16	4	1,068	490	45.9	.....	.....
1908.....	1,710	1,702	8	3	1,707	965	57.7	984	1
1909.....	337	327	10	4	333	99	29.7	99	0
Total.....	3,535	3,474	61	29	3,506	1,660	47.6	1,063	1
1910.....	1,782	1,768	14	6	1,776	936	52.7	930	6
1911.....	517	511	6	9	508	257	50.3	256	1
1912.....	165	153	12	2	163	9	5.5	9	0
1913.....	188	184	4	1	187	23	12.3	23	0
1914.....	172	163	9	2	170	23	13.6	23	0
Total.....	2,824	2,779	45	20	2,804	1,248	44.5	1,241	7
Grand total.....	6,813	6,672	141	76	6,737	3,021	44.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1906.....	124	122	2	0	124	116
1909.....	41	39	2	2	39	26
Total.....	165	161	4	2	163	152
1910.....	80	70	10	2	78	48
1911.....	75	70	5	4	71	73
1912.....	164	161	3	2	162	102
1913.....	213	212	1	0	213	194
1914.....	143	134	9	2	141	78
Total.....	675	647	28	10	665	405

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1906.....	1,566	1,560	6	3	1,563
1909.....	296	288	8	2	294
Total.....	1,862	1,868	14	5	1,877
1910.....	1,702	1,698	4	4	1,698
1911.....	442	441	1	5	437
1912.....	1	-8	9	0	1
1913.....	-25	-28	3	1	-26
1914.....	29	29	0	0	29
Total.....	2,149	2,132	17	10	2,139

ENGLISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	10,897	6,710	4,187	1,659	9,238	190	2.1	.....	.....
1901.....	13,488	8,041	5,447	2,105	11,383	208	1.8	.....	.....
1902.....	14,942	8,967	5,975	2,367	12,575	240	1.9	.....	.....
1903.....	28,451	17,229	11,222	4,270	24,181	400	1.6	.....	.....
1904.....	41,479	25,326	16,153	5,812	35,667	449	1.3	.....	.....
Total.....	109,257	66,273	42,984	16,213	93,044	1,487	1.6	.....	.....
1905.....	50,865	31,965	18,900	6,956	43,909	553	1.3	.....	.....
1906.....	45,079	28,010	17,069	6,081	38,998	375	1.0	.....	.....
1907.....	51,126	33,100	18,026	7,982	43,144	602	1.4	.....	.....
1908.....	49,056	29,727	19,329	7,990	41,066	571	1.4	332	239
1909.....	39,021	23,440	15,681	5,745	33,276	235	.7	134	101
Total.....	235,147	146,242	88,905	34,754	200,393	2,336	1.2	466	340
1910.....	53,498	32,199	21,299	8,697	44,801	256	.6	152	104
1911.....	57,258	32,980	24,278	9,920	47,338	380	.8	218	162
1912.....	49,689	27,133	22,556	8,395	41,294	270	.7	129	141
1913.....	55,322	31,320	24,202	8,915	46,407	301	.6	160	141
1914.....	51,746	28,920	22,826	8,060	43,686	301	.7	124	177
Total.....	267,713	152,552	115,161	43,987	223,726	1,508	.7	793	725
Grand total.....	612,117	365,067	247,060	94,954	517,163	5,331	1.1	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	5,320	3,473	1,847	530	4,790	4,335
1909.....	3,800	2,326	1,474	395	3,405	3,081
Total.....	9,120	5,799	3,321	925	8,195	7,416
1910.....	6,508	4,192	2,316	562	5,946	4,151
1911.....	9,432	6,293	3,139	890	8,542	4,735
1912.....	10,341	6,566	3,775	982	9,359	5,799
1903.....	10,794	6,797	3,997	1,104	9,690	5,053
1914.....	11,187	7,005	4,182	1,062	10,125	6,074
Total.....	48,262	30,853	17,409	4,600	43,662	25,782

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	43,736	26,254	17,482	7,460	36,276
1909.....	35,221	21,114	14,107	5,350	29,871
Total.....	78,957	47,368	31,589	12,810	66,147
1910.....	46,990	28,007	18,983	8,135	38,855
1911.....	47,826	26,687	21,139	9,080	38,796
1912.....	39,343	20,567	18,781	7,413	31,935
1913.....	44,728	24,523	20,205	7,811	36,917
1914.....	40,559	21,915	18,644	6,998	33,561
Total.....	219,451	121,699	97,752	39,387	180,064

ADULT ILLITERACY.

FINNISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illit- erate over 14.	Per cent illit- erate.	Male illit- erate.	Female illit- erate.
1900.....	12,612	8,000	4,612	1,303	11,219	303	2.7	.....	.....
1901.....	9,909	6,458	3,541	1,069	8,900	197	2.2	.....	.....
1902.....	13,868	9,586	4,283	1,289	12,579	178	1.4	.....	.....
1903.....	18,864	12,765	6,109	1,807	17,057	378	2.2	.....	.....
1904.....	10,157	5,583	4,574	1,506	8,651	234	2.7	.....	.....
Total.....	65,500	42,381	23,119	7,094	58,406	1,290	2.2	.....	.....
1905.....	17,012	11,907	5,105	1,483	15,529	279	1.8	.....	.....
1906.....	14,136	9,525	4,611	1,005	13,131	202	1.5	.....	.....
1907.....	14,960	10,326	4,534	967	13,993	429	3.1	.....	.....
1908.....	6,746	3,652	3,094	670	6,076	242	4.0	145	97
1909.....	11,687	7,832	3,855	818	10,869	53	.5	36	17
Total.....	64,441	43,242	21,199	4,943	59,498	1,205	2.0	181	114
1910.....	15,736	10,724	5,012	1,235	14,501	73	.5	35	28
1911.....	9,779	5,645	4,134	977	8,802	48	.5	25	23
1912.....	6,641	3,354	3,287	713	5,928	66	1.1	30	36
1913.....	12,756	8,219	4,537	888	11,868	85	.7	54	31
1914.....	12,805	7,582	5,223	1,115	11,690	91	.8	49	42
Total.....	57,717	35,524	22,193	4,928	52,789	263	.7	193	170
Grand total.....	187,658	121,147	66,511	16,965	170,693	2,858	1.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	3,463	2,770	693	203	3,260	2,456
1909.....	1,057	787	270	56	1,001	717
Total.....	4,520	3,557	963	259	4,261	3,173
1910.....	1,276	993	283	98	1,178	520
1911.....	4,219	3,615	604	172	4,047	1,948
1912.....	4,148	3,306	842	214	3,934	1,712
1913.....	3,053	2,221	832	124	2,929	1,285
1914.....	2,941	2,028	913	125	2,816	1,473
Total.....	15,637	12,163	3,474	733	14,904	6,328

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	3,283	2,682	2,401	467	2,816
1909.....	10,630	7,046	3,555	762	9,868
Total.....	13,913	7,927	5,956	1,229	12,684
1910.....	14,460	9,731	4,729	1,137	13,323
1911.....	5,560	2,090	3,530	805	4,755
1912.....	2,498	48	2,445	499	1,994
1913.....	9,703	5,998	3,705	764	8,939
1914.....	9,864	5,554	4,310	990	8,874
Total.....	42,080	23,361	18,719	4,196	37,884

FRENCH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	2,095	1,311	784	234	1,861	74	4.0		
1901.....	4,036	2,526	1,510	432	3,604	140	3.9		
1902.....	4,122	2,608	1,514	573	3,549	171	4.8		
1903.....	7,166	4,450	2,716	938	6,228	248	4.0		
1904.....	11,557	6,696	4,861	1,413	10,144	320	3.2		
Total.....	28,976	17,591	11,385	3,590	25,386	953	3.8		
1905.....	11,347	6,705	4,642	1,121	10,226	280	2.7		
1906.....	10,379	5,924	4,455	889	9,490	218	2.3		
1907.....	9,392	5,425	3,967	1,002	8,390	175	2.1		
1908.....	12,881	7,694	5,187	1,920	10,961	870	7.9	613	257
1909.....	19,423	10,735	8,688	4,444	14,979	1,973	13.2	1,395	578
Total.....	63,422	36,483	26,939	9,376	54,046	3,516	6.5	2,008	835
1910.....	21,107	11,715	9,392	4,918	16,189	1,780	11.0	1,195	585
1911.....	18,132	10,254	7,878	3,403	14,729	1,100	7.5	758	342
1912.....	18,382	10,327	8,055	3,320	15,062	1,117	7.4	793	324
1913.....	20,652	11,620	9,032	3,831	16,821	1,322	7.9	955	367
1914.....	18,166	10,404	7,762	3,170	14,996	1,133	7.5	833	300
Total.....	96,439	54,320	42,119	18,642	77,797	8,452	8.3	4,534	1,918
Grand total.....	188,837	108,394	80,443	31,608	157,229	10,921	7.0		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	3,063	1,838	1,225	148	2,915	1,992
1909.....	2,637	1,543	1,094	127	2,510	1,795
Total.....	5,700	3,381	2,319	275	5,425	3,787
1910.....	4,029	2,427	1,602	248	3,781	2,794
1911.....	3,400	2,094	1,306	202	3,198	2,158
1912.....	4,189	2,454	1,735	336	3,853	2,590
1913.....	4,019	2,550	1,469	191	3,828	2,610
1914.....	2,930	1,819	1,111	121	2,809	1,858
Total.....	18,567	11,544	7,023	1,098	17,469	12,010

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	9,818	5,856	3,962	1,772	8,046
1909.....	16,786	9,192	7,594	4,317	12,469
Total.....	26,604	15,048	11,556	6,089	20,515
1910.....	17,078	9,288	7,790	4,670	12,408
1911.....	14,732	8,160	6,572	3,201	11,531
1912.....	14,193	7,673	6,520	2,984	11,209
1913.....	16,633	9,070	7,563	3,640	12,993
1914.....	15,236	8,585	6,651	3,049	12,187
Total.....	77,872	42,776	35,096	17,544	60,328

GERMAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	29,682	17,284	12,398	5,638	24,044	1,398	5.8	.....	.....
1901.....	34,742	20,214	14,528	6,490	28,252	1,167	4.1	.....	.....
1902.....	51,686	32,813	18,873	9,582	42,104	2,291	5.4	.....	.....
1903.....	71,782	44,663	27,119	13,377	58,405	2,576	4.4	.....	.....
1904.....	74,790	43,775	31,015	12,868	61,922	2,468	4.0	.....	.....
Total.....	262,682	158,749	103,933	47,955	214,727	9,900	4.6	.....	.....
1905.....	82,360	49,647	32,713	11,469	70,891	2,993	4.2	.....	.....
1906.....	86,813	51,427	35,386	13,076	73,737	3,811	5.2	.....	.....
1907.....	92,936	56,170	36,766	14,845	78,091	5,482	7.0	.....	.....
1908.....	73,038	41,209	31,829	13,899	59,139	4,212	7.1	2,065	2,147
1909.....	58,534	33,919	24,615	9,882	48,652	3,040	6.2	1,567	1,473
Total.....	393,681	232,372	161,309	63,171	330,510	19,538	5.9	3,622	3,620
1910.....	71,380	42,191	29,189	12,165	59,215	3,509	5.9	1,978	1,531
1911.....	66,471	37,629	28,842	11,690	54,791	2,810	5.1	1,389	1,421
1912.....	65,243	36,479	28,864	11,484	53,859	2,948	5.3	1,316	1,532
1913.....	80,865	45,974	34,891	15,450	65,415	4,153	6.3	1,991	2,162
1914.....	79,871	44,821	35,050	13,530	66,351	3,024	4.5	1,351	1,673
Total.....	363,930	207,094	156,836	64,299	299,631	16,344	5.5	8,025	8,319
Grand total.....	1,020,293	598,215	422,078	175,425	844,868	45,782	5.3	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	14,418	10,070	4,348	751	13,667	11,307
1909.....	10,116	6,299	3,817	620	9,496	8,080
Total.....	24,534	16,369	8,165	1,371	23,163	19,387
1910.....	13,303	8,053	5,250	958	12,345	9,779
1911.....	15,243	10,070	5,173	911	14,332	10,736
1912.....	15,026	10,147	4,879	838	14,188	8,848
1913.....	11,871	7,613	4,258	751	11,120	6,615
1914.....	11,977	7,485	4,492	778	11,199	7,858
Total.....	67,420	43,368	24,052	4,236	63,184	43,536

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	58,620	31,139	27,481	13,148	45,472
1909.....	48,418	27,620	20,798	9,262	39,156
Total.....	107,038	58,759	48,279	22,410	84,628
1910.....	58,077	34,138	23,939	11,207	46,870
1911.....	51,228	27,559	23,669	10,769	40,459
1912.....	50,317	26,332	23,985	10,646	39,671
1913.....	68,994	38,361	30,633	14,699	54,295
1914.....	67,894	37,336	30,558	12,742	55,152
Total.....	296,510	163,726	132,784	60,063	236,447

GREEK.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Illiterate over 14.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	3,773	3,655	118	388	3,385	580	17.1		
1901.....	5,919	5,754	165	606	5,413	1,401	25.9		
1902.....	8,115	7,854	261	687	7,428	2,290	30.0		
1903.....	14,376	13,885	491	1,185	13,191	3,658	27.7		
1904.....	12,625	12,106	519	605	12,020	2,837	23.6		
Total.....	44,808	43,254	1,554	3,371	41,437	10,705	25.9		
1905.....	12,144	11,586	558	446	11,698	2,675	22.9		
1906.....	23,127	22,266	861	718	22,409	5,268	23.5		
1907.....	46,283	44,647	1,636	819	45,464	13,902	30.6		
1908.....	28,808	28,972	1,836	868	27,940	7,954	28.5	7,146	808
1909.....	20,262	18,738	1,524	778	19,484	5,076	26.1	4,381	695
Total.....	130,624	124,209	6,415	3,629	126,995	34,875	27.5	11,527	1,503
1910.....	39,135	36,580	2,555	1,041	38,094	9,142	24.0	7,904	1,238
1911.....	37,021	34,105	2,916	1,106	35,915	8,244	23.0	7,003	1,241
1912.....	31,566	28,521	3,045	1,144	30,422	6,878	22.6	5,469	1,409
1913.....	38,644	35,143	3,501	1,269	37,375	8,732	23.4	7,174	1,558
1914.....	45,881	40,207	5,674	1,848	44,033	8,920	20.2	6,469	2,451
Total.....	192,247	174,556	17,691	6,408	185,839	41,916	22.6	34,019	7,897
Grand total.....	367,679	342,019	25,660	13,408	354,271	87,496	24.6		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 14 years.
1908.....	6,763	6,597	166	69	6,694	5,696
1909.....	5,923	5,744	179	74	5,849	5,079
Total.....	12,686	12,341	345	143	12,543	10,685
1910.....	8,814	8,464	350	127	8,687	7,321
1911.....	11,134	10,787	347	99	11,035	8,877
1912.....	13,323	12,976	347	90	13,233	8,737
1913.....	31,556	31,115	441	113	31,443	18,054
1914.....	11,266	10,776	490	124	11,142	8,026
Total.....	76,093	74,118	1,975	553	75,540	49,015

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	22,045	20,375	1,670	799	21,246
1909.....	14,339	12,994	1,345	704	13,635
Total.....	36,384	33,369	3,015	1,503	34,881
1910.....	30,321	28,116	2,205	914	29,407
1911.....	25,897	23,318	2,569	1,007	24,890
1912.....	18,243	15,545	2,698	1,054	17,189
1913.....	7,088	4,028	3,060	1,156	5,932
1914.....	34,615	29,431	5,184	1,724	32,891
Total.....	116,154	100,438	15,716	5,855	110,299

HEBREW.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	60,764	26,330	24,434	13,092	47,672	10,898	22.9	.....	.....
1901.....	58,098	32,345	25,753	14,731	43,367	10,254	23.6	.....	.....
1902.....	57,688	32,737	24,951	15,312	42,376	12,108	28.6	.....	.....
1903.....	76,203	43,985	32,218	19,044	57,159	15,141	26.5	.....	.....
1904.....	106,236	65,040	41,196	23,529	82,707	19,268	23.3	.....	.....
Total.....	358,969	210,437	148,552	85,708	273,261	67,669	24.8	.....	.....
1905.....	129,910	82,076	47,834	28,553	101,357	23,577	23.3	.....	.....
1906.....	153,748	80,086	73,662	43,620	110,128	29,736	27.0	.....	.....
1907.....	149,182	80,530	68,652	37,696	111,486	32,323	29.0	.....	.....
1908.....	103,387	56,277	47,110	26,013	77,374	28,453	30.3	9,619	13,834
1909.....	57,551	31,057	26,494	15,210	42,341	12,372	29.2	4,944	7,428
Total.....	563,778	330,026	263,752	151,092	442,686	121,461	27.5	14,563	21,262
1910.....	84,260	46,206	38,054	21,869	62,391	18,299	29.3	7,786	10,513
1911.....	91,223	48,935	42,288	21,835	69,388	17,048	24.6	6,655	10,393
1912.....	80,595	42,751	37,844	20,091	60,504	15,428	25.5	5,860	9,568
1913.....	101,330	57,148	44,182	22,378	78,952	16,980	21.5	6,785	10,196
1914.....	138,051	74,905	63,146	30,113	107,938	21,490	19.9	7,815	13,675
Total.....	495,459	269,945	225,514	116,286	379,173	89,245	23.5	34,901	54,344
Grand total.....	1,448,226	810,406	637,818	353,096	1,095,140	278,375	25.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	7,702	6,004	1,698	529	7,173	6,625
1909.....	5,859	4,122	1,737	500	5,359	5,166
Total.....	13,561	10,126	3,435	1,029	12,532	11,791
1910.....	5,689	4,222	1,467	387	5,302	4,622
1911.....	6,401	4,951	1,450	360	6,041	4,956
1912.....	7,418	5,648	1,770	395	7,023	5,274
1913.....	6,697	5,215	1,482	315	6,382	3,812
1914.....	6,826	5,161	1,665	338	6,488	5,042
Total.....	33,031	25,197	7,834	1,795	31,236	23,706

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	95,685	50,273	45,412	25,484	70,201
1909.....	51,692	26,935	24,757	14,710	36,982
Total.....	147,377	77,208	70,169	40,194	107,183
1910.....	78,571	41,984	36,587	21,482	57,089
1911.....	84,822	43,964	40,838	21,475	63,347
1912.....	73,177	37,103	36,074	19,696	53,481
1913.....	94,633	51,933	42,700	22,063	72,570
1914.....	131,225	69,744	61,481	29,775	101,450
Total.....	462,428	244,748	217,680	114,491	347,937

IRISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	35,607	16,674	18,933	1,382	24,225	1,121	3.3	.....	.....
1901.....	30,404	12,807	17,597	1,347	29,057	939	3.2	.....	.....
1902.....	29,001	12,727	16,274	1,183	27,818	1,081	3.9	.....	.....
1903.....	35,366	16,112	19,254	1,843	33,523	1,284	3.8	.....	.....
1904.....	37,076	16,607	20,469	1,966	35,110	1,179	3.4	.....	.....
Total.....	167,454	74,927	92,527	7,721	159,733	5,604	3.5	.....	.....
1905.....	54,266	24,640	29,626	2,580	51,686	1,575	3.0	.....	.....
1906.....	40,959	20,846	20,113	1,868	39,091	889	2.3	.....	.....
1907.....	38,706	21,871	16,835	2,243	36,463	764	2.1	.....	.....
1908.....	36,427	17,822	18,605	2,656	33,771	578	1.7	312	266
1909.....	31,185	15,785	15,400	1,990	29,195	425	1.4	237	188
Total.....	201,543	100,964	100,579	11,337	190,206	4,231	2.2	549	454
1910.....	38,382	21,075	17,307	2,837	35,545	516	1.5	333	183
1911.....	40,246	21,283	18,963	2,871	37,375	465	1.2	302	163
1912.....	33,922	17,012	16,910	2,357	31,565	414	1.3	230	184
1913.....	37,023	19,072	17,961	2,543	34,480	348	1.0	188	160
1914.....	33,898	16,793	17,105	2,482	31,416	359	1.1	225	134
Total.....	183,471	95,235	88,236	13,090	170,381	2,102	1.2	1,278	824
Grand total.....	552,468	271,126	281,342	32,148	520,320	11,937	2.3	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	2,441	1,193	1,248	92	2,349	1,533
1909.....	1,578	732	846	63	1,515	1,010
Total.....	4,019	1,925	2,094	155	3,864	2,543
1910.....	2,472	1,270	1,202	120	2,352	1,393
1911.....	3,300	1,958	1,342	114	3,186	1,457
1912.....	4,086	2,125	1,961	149	3,937	1,831
1913.....	4,458	2,439	2,019	188	4,270	1,646
1914.....	4,689	2,274	2,415	133	4,556	2,064
Total.....	19,005	10,066	8,939	704	18,301	8,391

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	33,986	16,629	17,357	2,564	31,422
1909.....	29,607	15,053	14,554	1,927	27,680
Total.....	63,593	31,682	31,911	4,491	59,102
1910.....	35,910	19,805	16,105	2,717	33,193
1911.....	36,946	19,325	17,621	2,757	34,189
1912.....	29,836	14,887	14,949	2,208	27,628
1913.....	32,565	16,633	15,932	2,355	30,210
1914.....	29,209	14,519	14,690	2,349	26,860
Total.....	164,466	85,169	79,297	12,386	152,080

ADULT ILLITERACY.

ITALIAN (North).

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	17,316	13,540	3,776	1,574	15,742	1,863	11.3	.....	.....
1901.....	22,103	17,853	4,251	1,930	20,273	3,199	15.3	.....	.....
1902.....	27,620	22,425	5,195	2,215	25,405	3,663	14.4	.....	.....
1903.....	37,429	30,477	6,952	3,404	34,025	4,322	12.7	.....	.....
1904.....	36,699	28,784	7,915	3,033	33,666	4,167	12.6	.....	.....
Total.....	141,167	113,078	28,089	12,656	128,511	17,214	13.4	.....	.....
1906.....	39,930	31,095	8,235	3,569	36,361	5,083	14.0	.....	.....
1906.....	46,286	36,542	9,744	3,903	42,293	5,086	12.0	.....	.....
1907.....	51,564	40,949	10,615	4,008	47,556	4,756	10.0	.....	.....
1908.....	24,700	17,269	7,431	2,775	21,925	1,890	8.6	1,275	615
1909.....	26,150	18,844	6,306	2,178	22,972	1,910	8.3	1,490	420
Total.....	187,630	145,299	42,331	16,528	171,107	18,725	10.9	2,765	1,035
1910.....	30,780	23,754	7,026	2,722	28,058	2,045	7.3	1,627	418
1911.....	30,312	22,522	7,790	2,900	27,412	1,705	6.2	1,211	494
1912.....	26,443	18,507	7,936	3,033	23,410	1,344	5.8	880	454
1913.....	42,584	32,428	10,106	4,248	38,286	2,557	6.7	1,992	565
1914.....	44,802	33,552	11,250	4,775	40,027	2,473	6.2	1,867	606
Total.....	174,871	130,763	44,108	17,678	157,193	10,194	6.5	7,587	2,587
Grand total.....	503,668	398,140	114,528	46,857	456,811	46,063	10.5	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	19,507	17,467	2,040	602	18,905	14,173
1909.....	16,122	14,063	2,039	679	15,443	13,367
Total.....	35,629	31,550	4,079	1,281	34,348	27,540
1910.....	13,431	11,389	2,042	750	12,681	10,039
1911.....	14,209	12,152	2,057	662	13,547	9,690
1912.....	13,006	11,285	1,721	386	12,620	7,876
1913.....	10,995	9,378	1,617	299	10,696	6,324
1914.....	12,663	10,707	1,956	323	12,340	7,006
Total.....	64,304	54,911	9,393	2,420	61,884	41,535

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	5,193	—193	5,391	2,173	3,020
1909.....	9,028	4,761	4,267	1,499	7,529
Total.....	14,221	4,568	9,658	3,672	10,589
1910.....	17,349	12,365	4,984	1,972	15,377
1911.....	16,103	10,370	5,733	2,238	13,865
1912.....	13,437	7,222	6,215	2,647	10,790
1913.....	31,539	23,050	8,489	3,949	27,590
1914.....	32,139	22,845	9,294	4,452	27,687
Total.....	110,567	75,852	34,715	15,258	95,309

ITALIAN (South).

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	84,346	63,684	20,662	12,532	71,814	39,236	54.6	.....	.....
1901.....	115,704	90,395	25,309	15,794	99,910	59,033	59.1	.....	.....
1902.....	152,915	124,536	28,379	16,954	135,961	76,049	56.4	.....	.....
1903.....	196,117	158,939	37,178	21,619	174,498	84,583	48.5	.....	.....
1904.....	159,329	122,770	36,559	20,595	138,734	74,981	54.2	.....	.....
Total.....	708,411	560,324	148,087	87,794	620,617	334,482	53.4	.....	.....
1905.....	186,390	155,007	31,383	16,915	169,475	95,504	56.3	.....	.....
1906.....	240,528	190,992	49,536	26,546	213,982	115,085	53.7	.....	.....
1907.....	242,497	190,905	51,592	24,890	217,607	115,891	53.2	.....	.....
1908.....	110,547	73,824	36,723	18,465	92,082	46,678	50.6	30,287	16,391
1909.....	165,248	135,080	30,168	14,509	150,739	85,307	56.6	71,282	14,026
Total.....	945,210	745,808	199,402	101,325	843,885	458,415	54.5	101,569	30,416
1910.....	192,673	151,249	41,424	20,065	172,608	89,639	51.9	70,681	18,958
1911.....	159,638	116,244	43,394	21,171	138,467	68,402	49.4	50,200	18,202
1912.....	135,830	94,460	41,370	20,081	115,749	54,678	47.3	36,505	18,173
1913.....	231,613	176,472	55,141	27,302	204,311	99,461	48.7	75,305	24,156
1914.....	251,612	184,270	67,342	32,636	218,976	103,626	47.4	74,574	29,052
Total.....	971,366	722,695	248,671	121,555	849,811	415,806	49.0	307,265	108,541
Grand total....	2,624,987	2,028,827	596,160	310,674	2,314,313	1,208,703	52.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	147,828	134,783	13,045	5,289	142,539	123,063
1909.....	67,683	59,035	8,648	3,634	64,049	56,611
Total.....	215,511	193,818	21,693	8,923	206,588	179,674
1910.....	41,772	36,259	5,513	2,055	39,717	32,910
1911.....	62,009	55,542	6,467	2,036	59,973	49,826
1912.....	96,881	88,987	7,894	2,095	94,786	71,283
1913.....	79,057	70,619	8,438	2,198	76,859	54,853
1914.....	72,767	64,949	7,818	1,983	70,784	50,935
Total.....	352,486	316,356	36,130	10,367	342,119	259,807

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-37,281	-60,969	23,678	13,176	-50,457
1909.....	97,565	76,045	21,520	10,876	86,690
Total.....	60,284	15,086	45,198	24,051	36,233
1910.....	150,901	114,990	35,911	18,010	132,891
1911.....	97,629	60,702	36,927	19,135	78,494
1912.....	38,949	5,473	33,476	17,986	20,963
1913.....	152,556	105,853	46,703	25,104	127,452
1914.....	178,845	119,321	59,524	30,953	147,892
Total.....	618,880	406,339	212,541	111,188	507,692

ADULT ILLITERACY.

JAPANESE.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	12,628	12,260	368	32	12,596	1,123	8.9	.....	.....
1901.....	5,249	4,887	362	53	5,196	346	6.7	.....	.....
1902.....	14,455	10,589	3,866	630	13,825	163	1.2	.....	.....
1903.....	20,041	15,960	4,081	515	19,526	5,274	27.0	.....	.....
1904.....	14,382	12,729	1,653	190	14,192	3,071	21.6	.....	.....
Total.....	66,755	56,455	10,300	1,420	65,335	9,977	15.2	.....	.....
1905.....	11,021	9,810	1,211	124	10,897	4,257	39.3	.....	.....
1906.....	14,243	12,756	1,487	146	14,097	6,017	42.7	.....	.....
1907.....	30,524	27,845	2,679	249	30,275	9,668	31.5	.....	.....
1908.....	16,418	12,256	4,162	317	16,101	4,915	30.5	2,696	2,219
1909.....	3,275	1,462	1,813	149	3,126	899	28.8	205	694
Total.....	75,781	64,129	11,652	985	74,796	25,786	34.5	2,901	2,913
1910.....	2,798	915	1,883	121	2,677	721	27.3	42	689
1911.....	4,575	1,409	3,166	300	4,275	970	22.7	79	891
1912.....	6,172	1,930	4,242	328	5,844	1,745	29.8	226	1,509
1913.....	8,302	3,157	5,145	437	7,865	2,424	30.8	548	1,876
1914.....	8,941	3,292	5,649	438	8,503	1,425	16.7	358	1,067
Total.....	30,788	10,703	20,085	1,624	29,164	7,295	25.2	1,263	6,032
Grand total.....	173,374	131,287	42,087	4,029	169,345	43,058	25.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	5,323	4,586	737	167	5,156	3,372
1909.....	3,894	3,196	698	223	3,671	1,426
Total.....	9,217	7,782	1,435	390	8,827	5,798
1910.....	4,377	3,476	901	233	4,144	1,310
1911.....	3,351	2,721	630	177	3,174	1,090
1912.....	1,501	1,167	334	22	1,479	543
1913.....	733	561	172	18	715	235
1914.....	794	615	179	12	782	243
Total.....	10,756	8,540	2,216	462	10,294	3,401

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	11,095	7,670	3,425	150	10,945
1909.....	-619	-1,734	1,115	-74	-545
Total.....	10,476	5,936	4,540	76	10,400
1910.....	-1,579	-2,561	982	-112	-1,467
1911.....	1,224	-1,312	2,536	123	1,101
1912.....	4,671	1,763	3,908	306	4,365
1913.....	7,569	2,506	4,973	419	7,150
1914.....	8,147	2,677	5,470	426	7,721
Total.....	20,032	2,163	17,869	1,162	18,870

KOREAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	71	71	0	0	71	16	22.5		
1901.....	47	46	1	1	46	1	2.2		
1902.....	28	26	2	1	27	0			
1903.....	564	496	68	43	521	199	38.2		
1904.....	1,907	1,723	184	133	1,774	592	33.4		
Total.....	2,617	2,362	255	178	2,439	808			
1905.....	4,929	4,506	423	325	4,604	1,925	41.8		
1906.....	127	103	24	21	106	37	34.9		
1907.....	39	36	3	1	38	0			
1908.....	26	20	6	4	22	2	9.1	1	1
1909.....	11	9	2	0	11	1	9.1	1	0
Total.....	5,132	4,674	458	351	4,781	1,965	41.2	2	1
1910.....	19	14	5	2	17	1	5.9	0	1
1911.....	8	0	8	1	7	5	71.4	0	5
1912.....	33	14	19	2	31	10	32.3	3	7
1913.....	64	15	49	13	51	12	23.9	3	9
1914.....	152	58	94	8	144	24	16.7	2	22
Total.....	276	101	175	26	250	52	20.8	8	44
Grand total.....	8,025	7,137	888	555	7,470	2,825	37.5		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	188	174	14	2	186	168
1909.....	114	96	19	6	108	97
Total.....	302	269	33	8	294	265
1910.....	137	120	17	4	133	67
1911.....	41	35	6	0	41	5
1912.....	55	48	7	0	55	8
1913.....	44	38	6	0	44	2
1914.....	43	40	3	0	43	4
Total.....	320	281	39	4	316	86

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-162	-154	-8	2	-164
1909.....	-103	-86	-17	-6	-97
Total.....	-265	-240	-25	-4	-261
1910.....	-118	-106	-12	-2	-116
1911.....	-33	-35	2	1	-34
1912.....	-22	-34	12	2	-24
1913.....	20	-23	43	13	7
1914.....	109	18	91	8	101
Total.....	-44	-180	136	22	-66

ADULT ILLITERACY.

LITHUANIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	10,311	7,683	2,628	790	9,521	3,023	31.7		
1901.....	8,815	6,499	2,316	712	8,103	4,037	49.8		
1902.....	11,639	8,576	3,063	949	10,690	5,781	54.1		
1903.....	14,432	10,721	3,711	1,137	13,295	6,199	46.6		
1904.....	12,780	8,854	3,926	1,317	11,463	6,206	54.1		
Total.....	57,967	42,333	15,634	4,905	53,062	25,245	46.4		
1905.....	18,604	13,842	4,762	1,474	17,130	9,739	56.8		
1906.....	14,257	9,429	4,828	1,270	12,987	7,975	61.4		
1907.....	25,884	18,716	7,168	1,563	24,321	15,273	62.7		
1908.....	13,730	8,522	5,198	1,256	12,474	7,506	60.2	4,384	3,122
1909.....	15,254	10,284	4,970	1,088	14,166	8,243	58.2	5,093	3,150
Total.....	87,719	60,793	26,926	6,651	81,068	48,736	60.0	9,477	6,272
1910.....	22,714	15,360	7,354	1,813	20,901	11,523	55.2	7,224	4,298
1911.....	17,027	10,473	6,554	1,382	15,645	8,621	55.1	4,879	3,742
1912.....	14,078	8,068	5,980	1,186	12,892	6,962	54.2	3,297	3,685
1913.....	24,647	16,069	8,578	1,760	22,887	11,178	48.7	6,317	4,861
1914.....	21,584	12,282	9,302	2,040	19,544	9,708	49.7	4,667	5,041
Total.....	100,050	62,282	37,768	8,181	91,869	48,011	52.2	26,384	21,627
Grand total.....	245,736	165,408	80,328	19,737	225,999	121,992	53.9		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1906.....	3,388	2,828	560	124	3,264	2,704
1909.....	1,990	1,547	443	113	1,877	1,659
Total.....	5,378	4,375	1,003	237	5,141	4,363
1910.....	1,812	1,361	451	120	1,692	1,579
1911.....	2,430	1,865	565	159	2,271	2,099
1912.....	4,141	3,190	951	255	3,886	3,389
1913.....	3,276	2,412	864	191	3,085	2,585
1914.....	5,522	4,162	1,360	258	5,264	4,249
Total.....	17,181	12,990	4,191	983	16,198	13,781

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1906.....	10,332	5,694	4,638	1,122	9,210
1909.....	13,264	8,737	4,527	975	12,289
Total.....	23,596	14,431	9,165	2,107	21,489
1910.....	20,902	13,999	6,903	1,698	19,209
1911.....	14,597	8,608	5,989	1,233	13,374
1912.....	9,937	4,908	5,029	931	9,006
1913.....	21,371	13,657	7,714	1,569	19,802
1914.....	16,062	8,120	7,942	1,782	14,280
Total.....	82,869	49,292	33,577	7,198	75,671

MAGYAR.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	13,777	10,207	3,570	1,018	12,759	2,148	16.8	.....	.....
1901.....	13,311	9,627	3,684	1,108	12,203	2,912	7.5	.....	.....
1902.....	23,610	18,348	5,262	1,447	22,163	2,945	13.3	.....	.....
1903.....	27,194	20,440	6,684	2,141	24,983	2,619	10.5	.....	.....
1904.....	23,883	16,253	7,630	2,441	21,442	2,567	11.9	.....	.....
Total.....	101,706	74,876	26,830	8,155	93,550	11,191	11.9	.....	.....
1905.....	46,030	34,242	11,788	3,864	42,166	4,906	11.6	.....	.....
1906.....	44,261	31,760	12,501	3,974	40,287	5,103	12.6	.....	.....
1907.....	60,071	44,804	15,267	4,384	55,687	5,839	10.5	.....	.....
1908.....	24,378	15,504	8,874	3,447	20,931	2,318	11.1	1,390	928
1909.....	28,704	21,027	7,677	3,003	25,701	2,771	10.8	1,968	806
Total.....	203,444	147,337	56,107	18,672	184,772	20,937	11.3	3,255	1,734
1910.....	27,302	18,382	8,920	3,650	23,652	2,805	11.9	1,864	941
1911.....	19,996	11,640	8,356	3,095	16,901	1,872	11.1	1,045	827
1912.....	23,599	13,792	9,807	3,740	19,859	2,163	10.9	1,253	910
1913.....	30,610	16,637	13,973	5,670	24,940	2,463	9.9	1,183	1,280
1914.....	44,538	27,517	17,021	6,356	38,182	3,380	8.9	1,908	1,472
Total.....	146,045	87,968	58,077	22,511	123,534	12,683	10.2	7,253	5,430
Grand total.....	451,194	310,180	141,014	49,338	401,856	44,811	11.1	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	29,276	24,941	4,335	835	28,441	26,248
1909.....	11,109	8,162	2,947	535	10,574	9,731
Total.....	40,385	33,103	7,282	1,370	39,015	34,979
1910.....	10,533	7,367	3,166	558	9,975	8,945
1911.....	18,975	14,827	4,148	847	18,128	16,142
1912.....	17,575	13,348	4,227	690	16,885	12,815
1913.....	11,496	8,225	3,271	567	10,929	7,667
1914.....	14,254	10,339	3,915	679	13,575	10,288
Total.....	72,833	54,106	18,727	3,331	69,502	55,877

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-4,898	-9,437	4,539	2,612	-7,510
1909.....	17,505	12,865	4,730	2,468	15,127
Total.....	12,607	3,428	9,269	5,080	7,617
1910.....	16,769	11,015	5,754	3,092	13,677
1911.....	1,021	-3,187	4,208	2,248	-1,237
1912.....	6,024	444	5,580	3,080	2,964
1913.....	19,114	8,412	10,702	5,103	14,011
1914.....	30,284	17,178	13,106	5,677	24,607
Total.....	73,212	33,862	39,350	19,180	54,032

ADULT ILLITERACY.

MEXICAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	261	154	107	55	206	79	38.4	.....	.....
1901.....	350	217	133	42	308	68	22.1	.....	.....
1902.....	715	532	183	84	631	138	21.9	.....	.....
1903.....	486	324	162	67	419	58	13.8	.....	.....
1904.....	447	354	93	41	406	41	10.1	.....	.....
Total.....	2,260	1,581	678	289	1,970	384	19.5	.....	.....
1905.....	227	152	75	29	198	19	9.6	.....	.....
1906.....	141	99	48	21	120	1	0.8	.....	.....
1907.....	91	74	17	7	84	3	3.6	.....	.....
1908.....	5,682	3,968	1,714	1,022	4,660	2,770	59.4	1,938	832
1909.....	15,591	10,111	5,480	3,721	11,870	7,665	64.6	4,840	2,825
Total.....	21,732	14,398	7,334	4,900	16,932	10,458	61.8	6,778	3,657
1910.....	17,760	11,617	6,143	4,078	13,682	8,028	58.7	5,121	2,907
1911.....	18,784	12,423	6,361	4,111	14,673	8,111	55.3	5,445	2,666
1912.....	22,001	15,367	6,634	4,188	17,813	9,801	55.0	7,062	2,739
1913.....	10,964	6,359	4,595	3,048	7,906	3,692	46.7	2,011	1,681
1914.....	13,089	6,584	6,505	4,409	8,680	3,405	39.2	1,441	1,964
Total.....	82,588	52,350	30,238	19,834	62,754	33,037	52.6	21,060	11,967
Grand total.....	106,579	68,329	38,250	24,923	81,656	43,879	53.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1906.....	173	120	53	21	152	148
1909.....	158	108	50	15	143	130
Total.....	331	228	103	36	295	278
1910.....	210	153	57	18	192	169
1911.....	319	256	63	17	302	240
1912.....	325	248	77	27	298	273
1913.....	910	773	137	47	863	816
1914.....	1,670	1,462	188	85	1,585	1,550
Total.....	3,434	2,912	522	194	3,240	3,048

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1906.....	5,509	3,848	1,661	1,001	4,508
1909.....	15,433	10,003	5,430	3,708	11,727
Total.....	20,942	13,851	7,091	4,707	16,235
1910.....	17,550	11,464	6,086	4,060	13,490
1911.....	18,465	12,167	6,298	4,094	14,371
1912.....	21,676	15,119	6,557	4,161	17,515
1913.....	10,044	5,586	4,458	3,001	7,043
1914.....	11,419	5,102	6,317	4,324	7,095
Total.....	79,154	49,438	29,716	19,640	59,514

PACIFIC ISLANDER.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	112	92	20	7	105	53	50.5	.....	.....
1901.....	24	20	4	1	23	5	21.7	.....	.....
1902.....	40	29	11	7	33	5	15.6	.....	.....
1903.....	52	46	6	3	49	3	6.6	.....	.....
1904.....	12	9	3	1	11	5	45.5	.....	.....
Total.....	240	196	44	19	221	71	32.4	.....	.....
1905.....	17	13	4	1	16	3	18.8	.....	.....
1906.....	13	10	3	1	12	6	50.0	.....	.....
1907.....	3	2	1	0	3	0	.....	.....	.....
1908.....	2	1	1	0	2	0	.....	0	0
1909.....	7	3	4	0	7	4	57.2	2	2
Total.....	42	29	13	2	40	13	32.5	2	2
1910.....	61	45	16	0	61	1	1.6	1	0
1911.....	12	7	5	2	10	0	.....	0	0
1912.....	3	2	1	0	3	0	.....	0	0
1913.....	11	8	3	0	11	0	.....	0	0
1914.....	1	0	1	0	1	0	.....	0	0
Total.....	88	62	26	2	86	1	1.2	1	0
Grand total.....	370	287	83	23	347	86	24.5	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	7	3	4	3	4	7
1909.....	4	4	0	0	4	3
Total.....	11	7	4	3	8	10
1910.....	1	0	1	0	1	0
1911.....	1	1	0	0	1	1
1912.....	4	1	3	0	4	3
1913.....	4	3	1	2	2	4
1914.....	2	0	2	0	2	1
Total.....	12	5	7	2	10	9

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-5	-2	-3	-3	-2
1909.....	3	-1	4	0	3
Total.....	-2	-3	1	-3	1
1910.....	60	45	15	0	60
1911.....	11	6	5	2	9
1912.....	-1	1	-2	0	-1
1913.....	7	5	2	-2	9
1914.....	-1	0	-1	0	-1
Total.....	76	57	19	0	76

ADULT ILLITERACY.

POLISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Percent illiterate.	Male illiterate.	Female illiterate.
1900.....	46,988	32,152	14,786	4,597	42,341	13,398	31.6	.....	.....
1901.....	43,617	29,581	14,036	4,520	39,097	14,670	37.5	.....	.....
1902.....	69,620	50,368	19,252	5,999	63,631	24,455	38.4	.....	.....
1903.....	82,343	58,992	23,351	7,761	74,582	23,946	32.1	.....	.....
1904.....	67,757	44,882	22,875	8,116	59,641	21,338	35.8	.....	.....
Total.....	310,275	215,975	94,300	30,983	279,292	97,807	35.0	.....	.....
1905.....	102,437	72,452	29,985	9,867	92,570	36,686	39.6	.....	.....
1906.....	96,835	66,410	29,425	8,941	86,894	32,235	37.1	.....	.....
1907.....	138,033	100,700	37,333	9,602	128,431	52,938	41.2	.....	.....
1908.....	68,108	43,667	24,438	7,818	60,290	24,380	40.4	15,072	9,308
1909.....	77,566	50,597	26,968	7,397	70,169	28,002	39.9	18,033	9,969
Total.....	481,975	333,826	148,149	43,625	438,350	174,241	39.7	33,105	19,277
1910.....	128,348	91,275	37,073	9,798	118,550	43,794	37.0	30,835	12,959
1911.....	71,446	42,339	29,107	7,601	63,755	22,940	36.0	13,064	9,876
1912.....	85,163	50,028	35,135	8,477	76,686	27,563	35.9	15,166	12,397
1913.....	174,366	115,772	58,583	17,253	157,113	51,636	32.9	32,905	18,731
1914.....	122,657	72,587	49,820	15,767	106,890	33,426	31.3	18,100	15,326
Total.....	581,979	372,261	209,728	58,986	522,993	179,358	34.3	110,070	69,268
Grand total.....	1,374,229	922,062	452,177	123,594	1,240,635	451,406	36.3	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	46,727	39,148	7,579	1,757	44,970	40,358
1909.....	18,919	14,514	4,405	896	18,021	16,478
Total.....	65,646	53,662	11,984	2,655	62,991	56,831
1910.....	16,884	12,183	4,751	742	16,142	14,416
1911.....	31,952	25,806	6,144	1,138	30,814	27,619
1912.....	37,764	30,628	7,136	1,159	36,605	30,807
1913.....	24,107	18,886	5,221	701	23,406	18,770
1914.....	35,028	27,831	7,194	1,028	34,000	29,342
Total.....	145,735	115,289	30,446	4,768	140,967	120,754

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	21,378	4,519	16,859	6,061	15,317
1909.....	58,646	36,083	22,563	6,499	52,147
Total.....	80,024	40,602	39,422	12,560	67,464
1910.....	111,464	79,142	32,322	9,056	102,408
1911.....	39,494	16,531	22,963	6,558	32,941
1912.....	47,399	19,400	27,999	7,318	40,081
1913.....	150,258	96,886	53,372	16,552	133,706
1914.....	87,629	45,003	42,626	14,739	72,890
Total.....	436,244	256,902	179,342	54,218	382,026

PORTUGUESE.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	4,241	2,386	1,855	1,105	3,136	1,881	60.0		
1901.....	4,176	2,240	1,936	1,030	3,146	2,007	63.8		
1902.....	5,309	3,117	2,192	1,439	3,870	2,770	71.6		
1903.....	8,433	4,909	3,434	2,072	6,361	4,657	73.2		
1904.....	6,338	3,867	2,471	1,426	4,912	3,318	67.6		
Total.....	28,497	16,609	11,888	7,072	21,425	14,633	68.3		
1905.....	4,855	2,992	1,863	1,035	3,820	2,546	66.6		
1906.....	8,729	5,096	3,633	1,821	6,908	4,682	67.8		
1907.....	9,648	5,812	3,836	2,431	7,217	5,528	76.6		
1908.....	6,809	4,019	2,790	1,697	5,112	3,315	64.8	2,020	1,295
1909.....	4,606	2,886	1,720	908	3,698	2,409	65.1	1,577	832
Total.....	34,647	20,806	13,842	7,892	26,755	18,480	68.1	3,597	2,127
1910.....	7,657	4,887	2,770	1,526	6,131	4,165	67.9	2,816	1,349
1911.....	7,469	4,843	2,626	1,238	6,231	3,736	60.0	2,510	1,226
1912.....	9,403	5,938	3,465	1,863	7,540	4,234	56.1	2,669	1,565
1913.....	13,566	8,696	4,870	2,301	11,265	6,972	61.9	4,566	2,406
1914.....	9,647	6,260	3,387	1,338	8,309	4,790	57.6	2,958	1,832
Total.....	47,742	30,624	17,118	8,266	39,476	23,897	60.5	15,519	8,378
Grand total.....	110,886	68,038	42,848	23,230	87,656	57,010	65.1		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	898	633	265	50	848	635
1909.....	815	563	252	62	753	573
Total.....	1,713	1,196	517	112	1,601	1,208
1910.....	906	591	315	96	810	681
1911.....	1,388	927	461	111	1,277	911
1912.....	1,747	1,275	472	110	1,637	1,201
1913.....	1,583	1,128	455	105	1,478	1,067
1914.....	1,848	1,397	451	129	1,719	1,184
Total.....	7,472	5,318	2,154	551	6,921	5,244

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	5,911	3,386	2,525	1,647	4,264
1909.....	3,791	2,323	1,468	846	2,945
Total.....	9,702	5,709	3,993	2,493	7,209
1910.....	6,751	4,296	2,455	1,430	5,321
1911.....	6,081	3,916	2,165	1,127	4,954
1912.....	7,656	4,663	2,993	1,753	5,903
1913.....	11,963	7,568	4,415	2,196	9,767
1914.....	7,799	4,863	2,936	1,209	6,590
Total.....	40,270	25,306	14,964	7,715	32,555

ROUMANIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	398	374	24	8	390	96	24.6	.....	.....
1901.....	761	704	57	23	738	274	37.1	.....	.....
1902.....	2,033	1,904	129	39	1,994	564	28.3	.....	.....
1903.....	4,740	4,472	268	78	4,662	1,001	21.5	.....	.....
1904.....	4,364	3,994	370	93	4,271	1,354	31.7	.....	.....
Total.....	12,296	11,448	848	241	12,055	3,289	27.3	.....	.....
1905.....	7,818	7,244	574	153	7,665	2,208	28.8	.....	.....
1906.....	11,425	10,561	864	201	11,224	4,072	36.3	.....	.....
1907.....	19,200	17,779	1,421	248	18,952	7,411	39.1	.....	.....
1908.....	9,629	8,478	1,151	304	9,325	3,610	38.7	3,171	439
1909.....	8,041	7,036	1,005	328	7,713	2,707	35.1	2,312	395
Total.....	56,113	51,098	5,015	1,234	54,879	20,008	36.4	5,483	834
1910.....	14,199	12,602	1,597	389	13,810	5,040	36.5	4,411	629
1911.....	5,311	4,228	1,083	365	4,946	1,648	33.3	1,327	321
1912.....	8,329	6,752	1,577	484	7,845	2,868	36.6	2,307	561
1913.....	13,451	10,373	3,078	992	12,459	4,388	35.2	3,196	1,197
1914.....	24,070	19,748	4,322	1,232	22,838	7,579	33.2	6,971	1,008
Total.....	65,360	53,703	11,657	3,462	61,898	21,520	34.8	17,214	4,306
Grand total.....	133,769	116,249	17,520	4,937	128,832	44,817	34.8	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	5,264	5,008	256	39	5,225	4,970
1909.....	1,247	1,106	141	17	1,230	1,175
Total.....	6,511	6,114	397	56	6,455	6,145
1910.....	1,834	1,625	209	29	1,805	1,670
1911.....	5,230	4,790	440	70	5,160	4,904
1912.....	5,824	5,363	461	88	5,736	4,955
1913.....	3,156	2,811	345	52	3,104	2,432
1914.....	3,837	3,359	478	97	3,740	3,271
Total.....	19,881	17,948	1,933	336	19,545	17,232

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	4,365	3,470	895	265	4,100
1909.....	6,794	5,930	864	311	6,483
Total.....	11,159	9,400	1,759	576	10,583
1910.....	12,365	10,977	1,388	360	12,005
1911.....	81	-562	643	295	-214
1912.....	2,505	1,389	1,116	396	2,109
1913.....	10,295	7,562	2,733	940	9,355
1914.....	20,233	16,389	3,844	1,135	19,098
Total.....	45,479	35,755	9,724	3,126	42,353

RUSSIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	1,200	886	314	245	955	274	28.7		
1901.....	670	474	196	147	523	160	32.3		
1902.....	1,551	1,225	326	235	1,316	451	34.3		
1903.....	3,608	2,897	711	407	3,201	1,024	32.0		
1904.....	3,961	3,018	943	429	3,532	920	26.0		
Total.....	10,990	8,500	2,490	1,463	9,527	2,838	29.8		
1905.....	3,746	2,700	1,046	591	3,155	1,026	32.5		
1906.....	5,814	4,750	1,064	580	5,234	2,040	39.0		
1907.....	16,807	15,085	1,712	740	16,067	7,145	44.5		
1908.....	17,111	15,004	2,107	960	16,151	6,683	41.4	5,852	881
1909.....	10,038	8,794	1,244	377	9,661	4,081	41.7	3,461	570
Total.....	53,516	46,343	7,173	3,248	50,268	20,925	41.6	9,313	1,301
1910.....	17,294	14,918	2,376	1,102	16,192	6,224	38.4	5,172	1,052
1911.....	18,721	16,280	2,441	969	17,752	7,002	39.4	5,952	1,050
1912.....	22,558	19,464	3,094	1,043	21,515	8,482	39.4	6,939	1,543
1913.....	51,472	45,633	5,839	1,747	49,725	17,757	35.7	14,892	2,865
1914.....	44,957	38,010	6,947	2,143	42,814	14,906	34.8	11,751	3,154
Total.....	155,002	134,305	20,697	7,004	147,998	54,370	37.0	44,716	9,664
Grand total.....	219,508	189,148	30,360	11,715	207,793	78,133	37.6		

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	7,507	6,500	1,007	238	7,269	6,458
1909.....	4,112	3,380	732	232	3,880	3,553
Total.....	11,619	9,880	1,739	470	11,149	10,111
1910.....	5,682	4,675	1,007	292	5,390	4,112
1911.....	8,439	7,258	1,181	358	8,081	6,439
1912.....	9,744	8,588	1,156	345	9,399	8,124
1913.....	10,548	9,040	1,508	622	9,926	7,635
1914.....	17,491	15,615	1,876	592	16,899	14,963
Total.....	51,904	45,176	6,728	2,209	49,695	41,273

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	9,604	8,504	1,100	722	8,882
1909.....	5,926	5,414	512	145	5,781
Total.....	15,530	13,918	1,612	867	14,663
1910.....	11,612	10,243	1,369	810	10,802
1911.....	10,282	9,022	1,260	611	9,671
1912.....	12,814	10,876	1,938	698	12,116
1913.....	40,924	36,593	4,331	1,125	39,799
1914.....	27,466	22,395	5,071	1,551	25,915
Total.....	103,098	89,129	13,969	4,796	98,303

ADULT ILLITERACY.

RUTHENIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	2,832	1,942	890	216	2,616	1,282	49.0	.....	.....
1901.....	5,288	3,908	1,385	252	5,036	2,679	53.2	.....	.....
1902.....	7,533	5,836	1,697	300	7,233	3,609	49.9	.....	.....
1903.....	9,843	7,695	2,148	467	9,376	4,634	49.4	.....	.....
1904.....	9,592	6,904	2,688	549	9,043	5,326	58.9	.....	.....
Total.....	35,088	26,280	8,808	1,784	33,304	17,529	52.6	.....	.....
1905.....	14,473	10,820	3,653	661	13,812	8,652	62.7	.....	.....
1906.....	16,257	12,310	3,947	592	15,665	8,819	56.3	.....	.....
1907.....	24,081	18,451	5,630	731	23,350	13,044	55.8	.....	.....
1908.....	12,361	8,820	3,541	689	11,672	6,065	52.0	4,216	1,849
1909.....	15,808	10,863	4,945	961	14,847	7,608	51.2	5,326	2,282
Total.....	82,980	61,264	21,716	3,634	79,346	44,188	55.7	9,542	4,131
1910.....	27,907	21,198	6,709	1,063	26,844	13,623	50.7	10,716	2,907
1911.....	17,724	11,375	6,349	855	16,869	7,989	47.3	5,103	2,886
1912.....	21,965	13,121	8,844	1,255	20,710	9,104	43.9	5,254	3,850
1913.....	30,588	18,980	11,608	2,365	28,223	11,294	40.0	6,805	4,489
1914.....	36,727	23,590	13,137	2,690	34,047	13,047	38.6	8,503	4,705
Total.....	134,911	88,264	46,647	8,218	126,693	55,218	43.8	36,381	18,837
Grand total.....	252,979	175,808	77,171	13,636	239,343	116,935	48.9	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	3,310	2,906	404	44	3,266	2,851
1909.....	1,656	1,379	277	35	1,621	1,447
Total.....	4,966	4,285	681	79	4,887	4,298
1910.....	1,719	1,375	344	41	1,678	1,514
1911.....	3,838	3,301	537	61	3,777	3,438
1912.....	5,521	4,721	800	109	5,412	3,981
1913.....	5,327	4,643	684	105	5,222	2,599
1914.....	5,049	4,164	885	144	4,905	3,841
Total.....	21,454	18,204	3,250	460	20,994	15,373

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	9,051	5,914	3,137	645	8,406
1909.....	14,152	9,484	4,668	926	13,226
Total.....	23,203	15,398	7,805	1,571	21,632
1910.....	26,188	19,823	6,365	1,022	25,166
1911.....	13,886	8,074	5,812	794	13,092
1912.....	16,444	8,400	8,044	1,146	15,298
1913.....	25,261	14,337	10,924	2,260	23,001
1914.....	31,678	19,426	12,252	2,536	29,142
Total.....	113,457	70,060	43,397	7,758	106,699

SCANDINAVIAN (Norwegians, Danes, and Swedes).

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	32,952	19,530	13,422	2,422	30,530	271	0.9	.....	.....
1901.....	40,277	23,503	16,774	3,185	37,092	288	.8	.....	.....
1902.....	55,780	36,431	19,349	4,349	51,431	262	.5	.....	.....
1903.....	79,347	51,272	28,075	8,396	70,951	416	.6	.....	.....
1904.....	61,029	36,034	25,005	7,709	53,320	363	.7	.....	.....
Total.....	269,385	166,760	102,625	26,061	243,324	1,600	.7	.....	.....
1905.....	62,284	37,202	25,082	6,597	55,687	316	.6	.....	.....
1906.....	58,141	36,092	22,049	5,290	52,851	266	.5	.....	.....
1907.....	53,425	34,164	19,261	4,840	48,585	538	1.1	.....	.....
1908.....	32,789	18,251	14,538	3,727	29,062	348	1.2	219	129
1909.....	34,996	22,232	12,764	2,804	32,192	72	.2	33	39
Total.....	241,635	147,941	98,694	23,268	218,377	1,540	.7	252	168
1910.....	52,037	35,019	17,018	4,452	47,585	63	.2	33	30
1911.....	45,859	28,757	17,102	4,127	41,732	101	.2	54	47
1912.....	31,601	19,073	12,528	2,867	28,734	67	.2	37	30
1913.....	38,737	25,243	13,494	3,038	35,699	116	.3	70	46
1914.....	36,053	22,996	13,057	3,068	32,985	155	.5	111	44
Total.....	204,287	131,088	73,199	17,552	186,735	502	.3	305	197
Grand total.....	715,307	445,789	269,518	66,871	648,436	3,642	.6	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	5,801	3,933	1,868	297	5,504	4,031
1909.....	3,106	1,905	1,201	146	2,960	2,342
Total.....	8,907	5,838	3,069	443	8,464	6,363
1910.....	5,032	3,514	1,518	315	4,717	1,913
1911.....	8,036	6,259	1,777	270	7,766	2,582
1912.....	10,380	8,009	2,371	313	10,067	3,478
1913.....	9,291	6,969	2,302	400	8,891	3,665
1914.....	8,073	5,511	2,562	353	7,720	3,665
Total.....	40,812	30,282	10,530	1,651	39,161	15,308

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	26,988	14,318	12,670	3,430	23,558
1909.....	31,860	20,327	11,563	2,668	29,232
Total.....	58,878	34,645	24,233	6,098	52,790
1910.....	47,005	31,505	15,500	4,137	42,868
1911.....	37,823	22,498	15,325	3,857	33,966
1912.....	21,221	11,064	10,157	2,554	18,667
1913.....	29,446	18,254	11,192	2,638	26,808
1914.....	27,980	17,485	10,495	2,715	25,265
Total.....	163,475	100,806	62,669	15,901	147,574

ADULT ILLITERACY.

SCOTCH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	1,757	1,065	692	284	1,473	31	2.1	.....	.....
1901.....	2,004	1,202	802	311	1,693	20	1.2	.....	.....
1902.....	2,432	1,497	935	379	2,053	25	1.2	.....	.....
1903.....	6,219	3,995	2,224	960	5,259	62	1.2	.....	.....
1904.....	11,483	7,023	4,460	1,923	9,560	56	.6	.....	.....
Total.....	23,895	14,783	9,113	3,857	20,038	194	1.1	.....	.....
1905.....	16,144	10,472	5,672	2,270	13,874	92	.7	.....	.....
1906.....	16,463	10,883	5,580	2,117	14,346	61	.4	.....	.....
1907.....	20,516	13,666	6,850	3,242	17,274	167	1.0	.....	.....
1908.....	17,014	10,209	6,805	3,035	13,979	199	1.4	127	72
1909.....	16,446	10,323	6,123	2,379	14,067	74	.7	50	24
Total.....	86,583	55,553	31,030	13,043	73,540	593	.8	177	96
1910.....	24,612	15,546	9,066	3,997	20,715	93	.4	60	33
1911.....	25,625	14,798	10,827	4,510	21,115	118	.6	59	59
1912.....	20,293	10,637	9,656	3,593	16,700	86	.5	47	39
1913.....	21,293	11,545	9,748	3,521	17,772	91	.5	43	48
1914.....	18,997	10,332	8,665	2,938	16,059	85	.5	37	48
Total.....	110,820	62,858	47,962	18,459	92,361	473	.5	246	237
Grand total.....	221,298	133,193	88,105	35,359	185,939	1,260	.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,596	1,065	511	191	1,405	1,242
1909.....	903	515	388	82	821	784
Total.....	2,499	1,600	899	273	2,226	2,126
1910.....	1,992	1,322	670	167	1,825	1,075
1911.....	3,083	2,202	881	263	2,820	1,463
1912.....	3,456	2,300	1,156	325	3,131	1,933
1913.....	4,118	2,706	1,412	433	3,685	1,796
1914.....	3,923	2,484	1,439	358	3,565	2,118
Total.....	16,572	11,014	5,558	1,546	15,026	8,415

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	15,418	9,124	6,294	2,844	12,574
1909.....	15,543	9,808	5,735	2,297	13,246
Total.....	30,961	18,932	12,029	5,141	25,820
1910.....	22,620	14,224	8,396	3,730	18,890
1911.....	22,542	12,596	9,946	4,247	18,295
1912.....	16,837	8,337	8,500	3,268	13,569
1913.....	17,175	8,839	8,336	3,088	14,087
1914.....	15,074	7,848	7,226	2,580	12,494
Total.....	94,248	51,844	42,404	16,913	77,335

SLOVAK.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	29,243	21,235	8,008	2,159	27,084	7,563	27.9	.....	.....
1901.....	29,343	21,227	8,116	2,582	26,761	8,218	30.7	.....	.....
1902.....	36,934	27,197	9,737	3,005	33,929	8,788	25.9	.....	.....
1903.....	34,427	24,394	10,033	3,300	31,127	6,734	21.6	.....	.....
1904.....	27,940	18,502	9,438	3,336	24,604	6,861	27.9	.....	.....
Total.....	157,887	112,555	45,332	14,382	143,505	38,164	26.6	.....	.....
1905.....	52,368	38,038	14,330	4,582	47,786	11,964	25.1	.....	.....
1906.....	38,221	26,605	11,616	3,415	34,806	7,649	22.0	.....	.....
1907.....	42,041	28,951	13,090	3,766	38,275	8,231	21.5	.....	.....
1908.....	16,170	9,979	6,191	2,323	13,847	3,267	23.6	2,010	1,257
1909.....	22,586	16,168	6,418	2,145	20,441	4,035	19.7	2,924	1,111
Total.....	171,386	119,741	51,645	16,231	155,155	35,166	22.6	4,934	2,368
1910.....	32,416	23,642	8,774	2,787	29,629	6,393	21.6	4,757	1,636
1911.....	21,415	13,173	8,242	2,534	18,881	4,417	23.4	2,631	1,786
1912.....	25,281	15,639	9,642	2,997	22,284	4,144	18.6	2,586	1,558
1913.....	27,234	16,242	10,992	4,206	23,029	3,291	14.3	2,007	1,284
1914.....	25,819	15,009	10,810	4,232	21,587	2,455	11.4	1,495	960
Total.....	132,165	83,705	48,460	16,755	115,410	20,700	17.3	13,476	7,224
Grand total.....	461,438	316,001	145,437	47,369	414,070	94,030	22.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	23,573	19,992	3,581	666	22,907	19,918
1909.....	8,861	6,749	2,112	317	8,544	7,339
Total.....	32,434	26,741	5,693	983	31,451	27,257
1910.....	9,259	6,872	2,387	390	8,869	7,424
1911.....	15,561	12,645	2,916	471	15,090	12,371
1912.....	12,526	10,139	2,387	361	12,165	9,064
1913.....	9,851	7,678	2,173	204	9,557	7,092
1914.....	11,786	9,406	2,380	366	11,420	8,675
Total.....	58,963	46,740	12,243	1,882	57,101	44,646

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	-7,403	-10,013	2,610	1,657	-9,060
1909.....	13,725	9,419	4,306	1,828	11,897
Total.....	6,322	-594	6,916	3,485	2,837
1910.....	23,157	16,770	6,387	2,397	20,760
1911.....	5,854	528	5,326	2,063	3,791
1912.....	12,755	5,500	7,255	2,636	10,119
1913.....	17,383	8,564	8,819	3,911	13,472
1914.....	14,033	5,003	8,430	3,866	10,167
Total.....	73,182	36,965	36,217	14,673	58,309

ADULT ILLITERACY.

SPANISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	1,111	964	147	61	1,060	53	5.0	.....	.....
1901.....	1,202	1,072	130	106	1,097	152	13.9	.....	.....
1902.....	1,964	1,758	196	106	1,849	182	9.8	.....	.....
1903.....	3,297	2,738	559	282	3,015	273	9.1	.....	.....
1904.....	4,662	3,990	702	331	4,331	426	9.8	.....	.....
Total.....	12,226	10,492	1,734	884	11,342	1,085	9.5	.....	.....
1905.....	5,590	4,734	856	403	5,187	526	10.1	.....	.....
1906.....	5,332	4,480	872	378	4,954	443	8.9	.....	.....
1907.....	9,495	7,268	2,227	1,596	7,899	2,048	23.5	.....	.....
1908.....	6,686	5,489	1,147	581	6,055	599	14.8	733	106
1909.....	4,939	4,070	869	346	4,593	458	10.6	399	99
Total.....	31,992	26,011	5,981	3,304	28,688	5,004	17.5	1,123	265
1910.....	5,837	4,890	947	419	5,418	732	13.5	629	106
1911.....	8,068	6,405	1,663	913	7,155	1,209	16.9	1,014	196
1912.....	9,070	6,900	2,170	1,204	7,776	1,064	21.4	1,065	599
1913.....	9,042	7,240	1,802	926	8,116	1,452	18.3	1,079	408
1914.....	11,064	8,758	2,306	1,198	9,866	1,848	18.7	1,269	549
Total.....	43,081	34,193	8,888	4,750	38,331	6,935	18.0	5,083	1,833
Grand total.....	87,299	70,696	16,603	8,988	78,361	13,024	16.6	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,977	1,696	281	124	1,853	1,585
1909.....	1,794	1,538	256	96	1,698	1,506
Total.....	3,771	3,234	537	222	3,549	3,096
1910.....	2,323	1,958	365	145	2,178	1,906
1911.....	2,518	2,234	284	99	2,419	1,961
1912.....	2,569	2,252	317	92	2,477	1,996
1913.....	3,181	2,692	489	134	3,047	2,349
1914.....	3,214	2,810	404	151	3,063	2,418
Total.....	13,805	11,946	1,859	621	13,184	10,632

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	4,659	3,796	866	457	4,202
1909.....	3,145	2,532	613	245	2,897
Total.....	7,804	6,328	1,479	705	7,099
1910.....	3,514	2,932	582	274	3,240
1911.....	5,550	4,171	1,379	814	4,736
1912.....	6,501	4,648	1,853	1,202	5,299
1913.....	5,891	4,548	1,313	792	5,099
1914.....	7,850	5,948	1,902	1,047	6,803
Total.....	29,276	22,247	7,029	4,139	25,147

SPANISH-AMERICAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	97	83	14	10	87	31	35.6	.....	.....
1901.....	276	200	76	49	227	41	18.1	.....	.....
1902.....	496	353	143	82	414	33	8.0	.....	.....
1903.....	978	691	287	150	828	208	25.1	.....	.....
1904.....	1,666	1,141	525	287	1,379	57	4.1	.....	.....
Total.....	3,513	2,468	1,045	578	2,935	370	12.6	.....	.....
1905.....	1,658	1,146	512	223	1,435	43	3.0	.....	.....
1906.....	1,585	1,105	480	270	1,315	28	2.1	.....	.....
1907.....	1,060	734	326	159	901	17	1.9	.....	.....
1908.....	1,063	752	311	167	896	31	3.5	20	11
1909.....	890	604	286	141	749	40	5.3	28	12
Total.....	6,256	4,341	1,915	960	5,296	159	3.0	48	23
1910.....	900	645	255	123	777	35	4.5	21	14
1911.....	1,153	747	406	169	984	23	2.3	12	11
1912.....	1,342	930	412	193	1,149	27	2.3	15	12
1913.....	1,363	978	385	203	1,160	17	1.5	5	12
1914.....	1,544	1,032	512	245	1,299	17	1.3	3	14
Total.....	6,302	4,332	1,970	933	5,369	119	2.2	56	63
Grand total.....	16,071	11,141	4,930	2,471	13,600	648	4.8	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1906.....	333	228	105	34	299	286
1909.....	305	220	85	21	284	260
Total.....	638	448	190	55	583	546
1910.....	387	271	116	60	318	333
1911.....	374	278	96	32	342	298
1912.....	343	248	95	38	305	277
1913.....	457	310	147	52	405	368
1914.....	542	379	163	66	476	484
Total.....	2,103	1,486	617	267	1,846	1,780

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1906.....	730	524	206	133	597
1909.....	585	384	201	120	465
Total.....	1,315	908	407	253	1,062
1910.....	513	374	139	54	459
1911.....	779	460	310	127	642
1912.....	999	682	317	155	844
1913.....	906	668	238	151	755
1914.....	1,002	653	349	179	823
Total.....	4,199	2,846	1,353	676	3,523

SYRIAN.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	2,920	1,813	1,107	599	2,321	1,299	56.0	.....	.....
1901.....	4,084	2,729	1,355	798	3,286	1,834	56.2	.....	.....
1902.....	4,982	3,337	1,645	842	4,140	2,113	51.0	.....	.....
1903.....	5,551	3,749	1,802	952	4,599	2,471	53.7	.....	.....
1904.....	3,653	2,480	1,173	621	3,032	1,658	54.7	.....	.....
Total.....	21,170	14,108	7,062	3,812	17,358	9,275	53.9	.....	.....
1905.....	4,822	3,248	1,574	742	4,080	2,189	53.7	.....	.....
1906.....	5,824	4,100	1,724	886	4,938	2,707	54.8	.....	.....
1907.....	5,880	4,278	1,604	664	5,216	2,884	55.3	.....	.....
1908.....	5,520	3,926	1,594	746	4,774	2,611	54.7	1,648	963
1909.....	3,668	2,383	1,285	548	3,120	1,638	52.5	877	761
Total.....	25,714	17,933	7,781	3,586	22,128	12,029	54.5	2,525	1,724
1910.....	6,317	4,148	2,169	946	5,371	2,527	47.0	1,292	1,235
1911.....	5,444	3,609	1,835	673	4,771	2,315	48.5	1,354	961
1912.....	5,525	3,646	1,879	761	4,764	2,196	46.1	1,166	1,030
1913.....	9,210	6,177	3,033	1,341	7,869	4,134	52.5	2,363	1,771
1914.....	9,023	6,391	2,632	1,110	7,913	3,956	50.0	2,468	1,493
Total.....	35,519	23,971	11,548	4,831	30,688	15,128	49.3	8,638	6,490
Grand total.....	82,408	56,012	26,391	12,229	70,174	36,532	52.2	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,700	1,355	345	53	1,647	1,094
1909.....	1,141	907	234	38	1,103	794
Total.....	2,841	2,262	579	91	2,750	1,888
1910.....	1,077	851	226	56	1,021	756
1911.....	1,173	951	222	64	1,109	794
1912.....	972	780	192	29	943	542
1913.....	797	618	181	30	767	499
1914.....	1,200	950	250	59	1,141	698
Total.....	5,219	4,148	1,071	238	4,981	3,190

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	3,820	2,571	1,249	693	3,127
1909.....	2,527	1,476	1,051	510	2,017
Total.....	6,347	4,047	2,300	1,203	5,144
1910.....	5,240	3,297	1,943	590	4,350
1911.....	4,271	2,658	1,613	609	3,662
1912.....	4,553	2,866	1,687	732	3,821
1913.....	8,413	5,561	2,852	1,311	7,102
1914.....	7,823	5,441	2,382	1,051	6,772
Total.....	30,300	19,823	10,477	4,598	25,702

TURKISH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	184	174	10	16	168	126	75.0	.....	.....
1901.....	136	123	13	8	128	61	47.7	.....	.....
1902.....	165	151	14	11	154	52	33.8	.....	.....
1903.....	449	424	25	8	441	134	30.4	.....	.....
1904.....	1,482	1,412	70	43	1,439	572	39.7	.....	.....
Total.....	2,416	2,284	132	86	2,330	945	40.5	.....	.....
1905.....	2,145	2,082	63	45	2,100	1,273	60.6	.....	.....
1906.....	2,033	1,946	87	38	1,995	1,143	57.3	.....	.....
1907.....	1,902	1,855	47	18	1,884	1,263	67.0	.....	.....
1908.....	2,327	2,265	62	41	2,286	1,627	71.2	1,608	19
1909.....	820	781	39	33	787	480	61.0	469	11
Total.....	9,227	8,929	298	175	9,052	5,786	64.0	2,077	30
1910.....	1,283	1,237	46	21	1,262	814	64.5	788	26
1911.....	918	830	88	34	884	451	51.0	424	27
1912.....	1,336	1,256	80	25	1,311	672	51.3	642	30
1913.....	2,015	1,866	149	70	1,945	1,278	65.7	1,203	75
1914.....	2,693	2,591	102	47	2,646	1,688	63.8	1,650	38
Total.....	8,245	7,780	465	197	8,048	4,903	60.9	4,707	196
Grand total.....	19,888	18,993	895	458	19,430	11,634	59.8	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	1,276	1,232	44	9	1,267	1,136
1909.....	698	673	25	4	694	628
Total.....	1,974	1,905	69	13	1,961	1,764
1910.....	1,058	1,006	52	18	1,040	878
1911.....	1,633	1,579	54	24	1,609	1,313
1912.....	1,366	1,332	34	6	1,360	1,011
1913.....	1,297	1,266	31	13	1,284	907
1914.....	890	861	29	8	882	690
Total.....	6,244	6,044	200	69	6,175	4,799

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	1,051	1,033	18	32	1,019
1909.....	122	108	14	29	93
Total.....	1,173	1,141	32	61	1,112
1910.....	225	231	-6	3	222
1911.....	-715	-749	34	10	-725
1912.....	-30	-76	46	19	-49
1913.....	718	600	118	57	661
1914.....	1,803	1,730	73	39	1,764
Total.....	2,001	1,736	265	128	1,873

WELSH.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	762	455	307	196	566	22	3.9	.....	.....
1901.....	674	391	283	113	561	23	4.1	.....	.....
1902.....	760	468	292	142	618	33	5.3	.....	.....
1903.....	1,278	836	442	253	1,025	39	3.1	.....	.....
1904.....	1,820	1,173	647	340	1,480	43	2.9	.....	.....
Total.....	5,294	3,323	1,971	1,044	4,250	180	3.8	.....	.....
1905.....	2,531	1,549	982	464	2,067	73	3.5	.....	.....
1906.....	2,367	1,680	707	297	2,070	30	1.4	.....	.....
1907.....	2,754	1,852	902	466	2,288	24	1.0	.....	.....
1908.....	2,504	1,651	853	436	2,068	37	1.8	24	13
1909.....	1,699	1,108	591	260	1,439	11	.8	6	5
Total.....	11,855	7,820	4,035	1,923	9,932	175	1.8	80	18
1910.....	2,244	1,504	740	359	1,885	14	.7	7	5
1911.....	2,248	1,471	777	322	1,926	22	1.1	17	7
1912.....	2,239	1,419	820	344	1,895	12	.6	2	10
1913.....	2,820	1,771	1,049	443	2,377	14	.6	6	8
1914.....	2,558	1,651	907	443	2,115	18	.9	8	10
Total.....	12,109	7,816	4,293	1,911	10,198	80	.8	40	40
Grand total.....	29,258	18,959	10,299	4,878	24,380	415	1.7	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	163	108	55	21	142	120
1909.....	102	65	37	4	98	63
Total.....	265	173	92	25	240	203
1910.....	195	142	53	9	186	125
1911.....	255	202	53	17	238	144
1912.....	301	215	86	15	286	158
1913.....	228	231	67	11	267	139
1914.....	395	284	111	33	362	228
Total.....	1,444	1,074	370	85	1,359	794

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	2,341	1,543	798	415	1,926
1909.....	1,597	1,043	554	256	1,341
Total.....	3,938	2,586	1,352	671	3,267
1910.....	2,049	1,362	787	350	1,699
1911.....	1,993	1,269	724	305	1,688
1912.....	1,938	1,204	734	329	1,609
1913.....	2,522	1,540	982	432	2,090
1914.....	2,163	1,367	796	410	1,753
Total.....	10,665	6,642	4,023	1,826	8,839

WEST INDIAN (other than Cuban).

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	78	56	22	4	74	4	5.4	.....	.....
1901.....	82	62	20	9	73	10	13.7	.....	.....
1902.....	137	92	45	17	120	5	4.2	.....	.....
1903.....	1,497	943	554	202	1,295	69	5.3	.....	.....
1904.....	1,942	1,123	819	232	1,710	40	2.3	.....	.....
Total.....	3,736	2,276	1,460	464	3,272	128	3.9	.....	.....
1905.....	1,548	892	656	187	1,361	38	2.8	.....	.....
1906.....	1,476	869	607	218	1,258	26	2.1	.....	.....
1907.....	1,381	778	603	179	1,202	20	1.7	.....	.....
1908.....	1,110	560	550	175	935	37	4.0	26	11
1909.....	1,024	591	433	142	882	38	4.3	31	7
Total.....	6,539	3,690	2,849	901	5,638	159	2.8	57	18
1910.....	1,150	634	516	206	944	32	3.4	18	14
1911.....	1,141	625	516	139	1,002	26	2.6	24	2
1912.....	1,132	590	542	115	1,017	30	2.9	24	6
1913.....	1,171	655	516	125	1,046	15	1.4	10	5
1914.....	1,396	818	578	150	1,246	34	2.8	28	8
Total.....	5,990	3,322	2,668	735	5,255	137	2.6	102	35
Grand total.....	16,265	9,288	6,977	2,100	14,165	424	2.9	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	375	220	155	56	319	318
1909.....	375	199	176	36	339	320
Total.....	750	419	331	92	658	638
1910.....	388	222	166	55	333	292
1911.....	344	184	160	23	321	243
1912.....	530	277	253	36	494	369
1913.....	584	299	285	48	536	338
1914.....	677	361	316	52	625	398
Total.....	2,523	1,343	1,180	214	2,309	1,645

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	735	340	395	119	616
1909.....	649	392	257	106	543
Total.....	1,384	732	652	225	1,159
1910.....	782	412	350	151	631
1911.....	797	441	356	116	681
1912.....	602	313	289	79	523
1913.....	587	356	231	77	510
1914.....	719	457	262	98	621
Total.....	3,467	1,979	1,488	521	2,946

ADULT ILLITERACY.

OTHER PEOPLES.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	149	106	43	29	120	8	6.6	.....	.....
1901.....	178	130	48	35	143	6	4.2	.....	.....
1902.....	267	266	1	9	258	31	12.0	.....	.....
1903.....	222	184	38	35	187	30	16.0	.....	.....
1904.....	697	559	138	65	632	173	27.4	.....	.....
Total.....	1,513	1,245	268	173	1,340	248	18.5	.....	.....
1905.....	356	292	64	22	334	51	15.2	.....	.....
1906.....	1,027	970	57	27	1,000	365	36.5	.....	.....
1907.....	2,058	1,954	104	58	2,000	930	46.5	.....	.....
1908.....	1,530	1,416	114	60	1,470	678	46.2	653	25
1909.....	1,537	1,444	93	59	1,478	853	57.7	802	51
Total.....	6,508	6,076	432	226	6,282	2,877	45.8	1,455	76
1910.....	3,330	3,243	87	44	3,286	1,873	57.0	1,839	34
1911.....	3,323	3,160	173	45	3,228	1,702	52.7	1,619	83
1912.....	3,660	3,335	325	151	3,509	1,602	45.7	1,502	100
1913.....	3,038	2,855	453	185	2,853	1,237	43.4	1,037	200
1914.....	3,830	3,553	277	92	3,738	1,693	45.3	1,621	72
Total.....	17,181	15,866	1,315	567	16,614	8,107	48.8	7,618	499
Grand total.....	25,202	23,187	2,015	966	24,236	11,232	46.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	630	623	7	2	628	594
1909.....	533	515	18	10	523	500
Total.....	1,163	1,138	25	12	1,151	1,094
1910.....	806	749	57	19	787	643
1911.....	862	816	46	25	837	630
1912.....	1,113	1,088	25	7	1,106	910
1913.....	1,118	1,050	68	29	1,089	776
1914.....	1,470	1,423	47	15	1,455	1,072
Total.....	5,369	5,126	243	95	5,274	4,031

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	900	793	107	58	842
1909.....	1,004	929	75	49	955
Total.....	1,904	1,722	182	107	1,797
1910.....	2,524	2,494	30	25	2,499
1911.....	2,461	2,334	127	70	2,391
1912.....	2,547	2,247	300	144	2,403
1913.....	1,920	1,535	385	156	1,764
1914.....	2,360	2,130	230	77	2,283
Total.....	11,812	10,740	1,072	472	11,340

ADULT ILLITERACY.

OTHER PEOPLES.

WHOLE NUMBER ADMITTED.

Year.	Whole number admitted.	Male.	Female.	Under 14.	Over 14.	Number illiterate.	Per cent illiterate.	Male illiterate.	Female illiterate.
1900.....	149	106	43	29	120	8	6.6	.....	.....
1901.....	178	130	48	35	143	6	4.2	.....	.....
1902.....	267	266	1	9	258	31	12.0	.....	.....
1903.....	223	184	38	35	187	30	16.0	.....	.....
1904.....	697	559	138	65	632	173	27.4	.....	.....
Total.....	1,513	1,245	268	173	1,340	248	18.5	.....	.....
1905.....	356	292	64	22	334	51	15.2	.....	.....
1906.....	1,027	970	57	27	1,000	365	36.5	.....	.....
1907.....	2,058	1,954	104	58	2,000	930	46.5	.....	.....
1908.....	1,530	1,416	114	60	1,470	678	46.2	653	25
1909.....	1,537	1,444	93	59	1,478	853	57.7	802	51
Total.....	6,508	6,076	432	226	6,282	2,877	45.8	1,455	76
1910.....	3,330	3,243	87	44	3,286	1,873	57.0	1,839	34
1911.....	3,323	3,150	173	95	3,228	1,702	52.7	1,619	83
1912.....	3,660	3,336	325	151	3,509	1,602	45.7	1,502	100
1913.....	3,038	2,585	453	185	2,853	1,237	43.4	1,037	200
1914.....	3,830	3,553	277	92	3,738	1,663	45.3	1,621	72
Total.....	17,181	15,866	1,315	567	16,614	8,107	48.8	7,618	489
Grand total.....	25,202	23,187	2,015	966	24,236	11,232	46.4	.....	.....

NUMBER DEPARTED.

Year.	Number departed.	Male.	Female.	Under 14.	Over 14.	Resident not over 5 years.
1908.....	630	623	7	2	628	594
1909.....	533	515	18	10	523	500
Total.....	1,163	1,138	25	12	1,151	1,094
1910.....	806	749	57	19	787	643
1911.....	862	816	46	25	837	630
1912.....	1,113	1,088	25	7	1,106	910
1913.....	1,118	1,050	68	29	1,089	776
1914.....	1,470	1,423	47	15	1,455	1,072
Total.....	5,369	5,126	243	95	5,274	4,031

NET NUMBER ADMITTED.

Year.	Net number admitted.	Male.	Female.	Under 14.	Over 14.
1908.....	900	793	107	58	842
1909.....	1,004	929	75	49	955
Total.....	1,904	1,722	182	107	1,797
1910.....	2,524	2,494	30	25	2,499
1911.....	2,461	2,334	127	70	2,391
1912.....	2,547	2,247	300	144	2,403
1913.....	1,920	1,535	385	156	1,764
1914.....	2,360	2,130	230	77	2,283
Total.....	11,812	10,740	1,072	472	11,340



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 36

MONTHLY RECORD
OF CURRENT EDUCATIONAL
PUBLICATIONS

DECEMBER, 1916



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 30

MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS

ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.

AT

10 CENTS PER COPY

2



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

140. Pennsylvania University. Schoolmen's week. April 12-17, 1910. Philadelphia: The University [1910]. 312 p. 12°. (University departmental series, no. 6, pt. 4. August 1910)

MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

Compiled by the Library Division, Bureau of Education, and a

General.—Publications of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology—Child study—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Research, training, and professional status—Higher education—School administration—School management—School architecture—School hygiene and sanitation—Physical training—Social aspects of education—Child welfare—Moral education—Religious education—Manual and vocational training—Vocational guidance—Agricultural education—Home economics—Professional education—Civic education—Military training—Education of women—Education of immigrants—Education of deaf—Exceptional children—Special training of juveniles and youth.—Bureau of Education; Recent publications.—Bulletin of the Bureau of Education.

1441. Gajori, Florian. William (died) a great seventeenth-century teacher of mathematics. (Chicago [i.e. The Open court publishing company, 1916.

NOTE.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

PUBLICATIONS OF ASSOCIATIONS.

1439. **Michigan schoolmasters' club. Journal** . . . fifty-first meeting, held in Ann Arbor, March 25-31, 1910. Ann Arbor, Mich.: Published by the Club. 182 p. 4°. (L. P. Jocelyn, secretary. Ann Arbor, Mich.)

Contains: 1. M. E. Cooley: Drawing instinct in primitive man, p. 8-12. 2. J. P. Haney: Art in harness, p. 12-17. 3. R. B. Rarigum: The purpose of art instruction in American education, p. 18-24. 4. A. S. Whitney: Status of superintendents, principals and teachers of the high schools of Michigan, p. 25-43. 5. E. L. Miller: Latin inside and out, p. 44-51. 6. J. S. Brown: Applied high school chemistry for girls, p. 63-68. 7. H. E. Hammond: Physics for girls, p. 77-81. 8. L. H. Harvey: Revised report of the biology committee of the National education association on the reorganization of secondary education, p. 94-109. 9. E. D. Huntington: Discussion of report on elementary science situation, p. 109-13. 10. Ethel W. B. Chase: Preliminary report on the effect of junior college work upon the high school pupils of Boston, p. 124-25. 11. C. O. Saper: The condition of geography in the high school and its opportunity, p. 125-29. 12. J. P. Haney: Art teaching in high schools, p. 130-39. 13. E. C. Warriner: The building of school furniture by the manual training department, p. 144-50. 14. W. H. Clark: Building of school furniture by the manual training department, p. 150-53.

1440. **Pennsylvania. University.** Schoolmen's week, April 12-15, 1916. Philadelphia, Pa., The University [1916] 312 p. 12°. (University bulletins, 16th series, no. 6, pt. 4. August 1916)

Contains: 1. A. J. Jones: Preparation of high school teachers in Pennsylvania, p. 24-36. 2. I. B. King: Normal schools and the preparation of teachers, p. 37-42. 3. Harlan Updegraff: Salaries of teachers in Pennsylvania, p. 43-57. 4. W. S. Hartzog: What the state normal schools should do for the preparation of teachers, p. 60-66. 5. F. P. Graves: What the universities and colleges should do for the preparation of teachers, p. 67-73. 6. F. E. Downes: What the city normal schools should do for the preparation of teachers, p. 74-78. 7. N. C. Schaeffer: Conditioning factors in the education and training of teachers, p. 80-84. 8. F. E. Baker: Discussion [on normal schools of Pennsylvania] p. 85-93. 9. Carmon Ross: Provision for retarded pupils in Pennsylvania in cities and towns of population of 2,500 and over, p. 118-32. 10. A. Wanner: Standardization of financial items in school records and reports, p. 136-44. 11. L. D. Coffman: Qualities of merit among teachers and rating schemes, p. 149-67. 12. A. S. Cook: Supervision as an essential feature of a county school system, p. 175-82. 13. J. J. Savitz: Supervision of rural schools in New Jersey, p. 183-93. 14. Lida B. Earhart: Some aspects of children's study in the elementary school, p. 204-209. 15. E. E. Wildman: General science course—its character and relation to the physical and biological science courses, p. 223-29. 16. A. F. West: The classics fundamental in liberal education, p. 243-63. 17. G. G. Chambers: The new admission requirements of the University and co-operation with secondary schools in their administration, p. 305-11.

EDUCATIONAL HISTORY AND BIOGRAPHY.

1441. **Cajori, Florian.** William Oughtred; a great seventeenth-century teacher of mathematics. Chicago [etc.] The Open court publishing company, 1916. 100 p. 12°.
1442. **Duggan, Stephen Pierce.** A student's textbook in the history of education. New York, Chicago, D. Appleton and company [1916] 398 p. illus. 12°. Contains bibliographies.
1443. **Klatt, Albert G.** A brief survey of the events pertaining to education previous to the organization of Minnesota as a territory. School review, 24: 603-9, October 1916.
1444. **Macpherson, W. E.** The Ontario grammar schools. Queen's quarterly (Kingston, Canada) 24: 193-214, October-December 1916.
History of secondary education in Ontario. In the year 1871, the name of the old grammar schools was changed to "high schools." Latin was no longer compulsory, and boys and girls were admitted.
1445. **Stark, Herbert A.** Vernacular education in Bengal from 1813 to 1912. Calcutta review, no. 285: 239-81, July 1916.
Contains: Chapter VI, The Indian education commission of 1882. Chapter VII, The bearing of the recommendations of the Education commission on primary (vernacular) education in Bengal.

CURRENT EDUCATIONAL CONDITIONS.

1446. **Atteridge, A. Hilliard.** English education under war conditions. America, 16: 101-102, November 11, 1916.
How the war has affected elementary schools, higher schools, and professional schools.
1447. **Dewey, John.** Nationalizing education. American school, 2: 232-34, August 1916.
An address at the meeting of the National education association, New York, July 7, 1916.
"One of America's great educational leaders discusses the true nationalization of our educational system—how our public schools may help us realize our national ideal."
Also in Journal of education, 84: 425-28, November 2, 1916.
1448. **Hall, Edwin H.** Notes sur l'enseignement aux États-Unis. Revue internationale de l'enseignement, 36: 343-56, September-October 1916.
Lectures delivered in French universities during 1914-15 by the author under the auspices of the Harvard foundation. To be continued.

1449. **Hauvette, Henri.** *L'Union intellectuelle franco-italienne. Revue internationale de l'enseignement*, 36: 357-63, September-October 1916.
Description of an association which has for its purpose the development of closer relations between France and Italy.
1450. **Kennedy, Joseph.** *Educational progress. School education*, 36: 3-4, November 1916.
Tells of the phenomenal progress in nearly all phases of educational development in this country during the last thirty or forty years.
1451. **Matheson, P. E.** *Education to-day and to-morrow. Fortnightly review*, n. s. 100: 614-21, October 1916.
Criticisms of English national education. Says that school studies must be kept liberal.
1452. **Rockford, Ill. Board of education.** *A review of the Rockford public schools. 1915-1916. Issued by the Board of education, Rockford, Illinois. [Rockford, Ill., Rockford printing company, 1916] cover-title, 126 p. illus. 8°.*
1453. **Sailer, T. H. P.** *Some impressions of education in the far East. International review of missions (Edinburgh) 5: 541-51, October 1916.*
1454. **Snyder, Morton.** *Schools as a target for critics. Pittsburgh school bulletin*, 10: 323-28, November 1916.
From the *New York Times*.
The objections to the experimental method in education and the value of this method.
1455. **Stearns, Alfred S.** *Some fallacies in the modern educational system. Atlantic monthly*, 118: 641-53, November 1916.
A reply to Abraham Flexner's "Modern school." Says that Mr. Flexner's theories are mostly based on "pure assumption," some are self-contradictory, many would prove wholly unworkable.

EDUCATIONAL THEORY AND PRACTICE.

1456. **Conklin, Edwin Grant.** *Heredity and environment in the development of men. 2d ed. Princeton, Princeton university press; [etc., etc.] 1916. 550 p. illus. 8°. (Norman W. Harris lectures for 1914 at Northwestern university)*
"References to literature": p. 509-18.
1457. **Craig, Anne Throop.** *Instruction and construction. Atlantic educational journal*, 12: 130-35, November 1916.
A plea for an education that will develop the individual's constructive ability.
1458. **Horne, Herman Harrell.** *Story-telling, questioning, and studying. Three school arts. New York, The Macmillan company, 1916. 181 p. 12°.*
1459. **Kitson, Harry D.** *How to use your mind; a psychology of study; being a manual for the use of students and teachers in the administration of supervised study. Philadelphia and London, J. B. Lippincott company [1916] 216 p. 12°.*
1460. **Lindsay, Samuel McCune.** *The state and education. Teachers college record*, 17: 311-29, September 1916.
Fourth in a series of addresses by various speakers on the basic principles which must underlie a system of education in a democracy.
1461. **Thwing, Charles Franklin.** *Education according to some modern masters. New York, The Platt & Peck co. [1916] 296 p. 12°.*
Contains chapters on education according to Emerson, Carlyle, Ruskin, John Stuart Mill, Gladstone, Matthew Arnold, J. H. Newman, and Goethe, with a final chapter of Summary and conclusion.

1462. Whipple, Guy Montrose. How to study effectively. H. Breckinridge, Ill. Public-school publishing co. [1916] 44 p. 16".
"The best brief and practical treatment of the subject."—*School review*, November 1916, p. 702.

EDUCATIONAL PSYCHOLOGY: CHILD STUDY.

1463. Conard, H. E. and Arps, G. F. An experimental study of economical learning. *American journal of psychology*, 27: 507-29, October 1916.
Results of the Courts tests in arithmetic applied to selected groups of high-school students.
1464. Courtis, Stuart A. Measuring the child's capacity. "Normal instructor and primary plans, 28: 53-64, 82, November 1916; 45-46, December 1916.
The second and third of a series of three articles.
Limited to a single phase of one subject, namely, drill work in the four operations of arithmetic, but "the general principles involved are applicable to the teaching of spelling, writing, reading, and many other fundamental subjects." The final article is entitled "Educational diagnosis."
1465. Dearborn, W. F.; Anderson, J. E., and Christiansen, A. O. Form board and construction tests of mental ability. *Journal of educational psychology*, 7: 445-68, October 1916.
"A color-form test, five form-board tests, a performance test, and a constructive test as described, and tentative norms are indicated for different ages. Plans are outlined for a grade scales of construction tests."
1466. Douglass, Aubrey Augustus and Denley, William, Leonard. Migration studies applied to education. [Worcester, Mass., 1916] cover-title, p. [341]-261. 8P.
Reprinted from the *Pedagogical seminary*, June 1906, vol. XXXIII.
1467. Graves, S. Monroe. A study in handwriting. *Journal of educational psychology*, 7: 433-44, October 1916.
"The author secured 604 samples of handwriting from elementary school pupils under controlled conditions, and studied them to discover the relative value of methods which differ in such mechanical factors as slant, spacing, formation of letters, manner of holding the pen, and movement of the arm, hand, and fingers."
1468. Haberman, J. Victor. The intelligence examination and evaluation; a study of the child's mind. Second report. Part II. *Psychological review*, 23: 484-500, November 1916.
1469. Hudelson, Earl. Some achievements in the establishment of a standard for the measurement of English composition in the Bloomington, Indiana, schools. *English journal*, 5: 590-97, November 1916.
1470. King, Irving and Gold, Hugo. A tentative standardization of certain "opposites tests." *Journal of educational psychology*, 7: 459-82, October 1916.
"The object of the present study was to take certain lists of words which have been used by various experimenters for opposites tests, to give these tests under the best possible conditions, and to attempt to standardize a list of lists from which one may expect reasonably uniform results; and to standardize the grading of opposites tests by determining the words likely to be given as the opposite of each word, their frequency, and their relative value."
1471. Leo, Brother. The art of thinking. *Catholic school journal*, 16: 229-32, October 1916.
1472. Lodge, Rupert Clendon and Jackson, Joseph Leonard. Reproduction of prose passages. *Psychological clinic*, 10: 128-45, October 15, 1916.
Gives the results of tests given to students of the University of Alberta, in various classes.
1473. Meredith, Christabel M. The educational bearings of modern psychology. Boston, New York [etc.] Houghton Mifflin company [1916] 143 p. 12".
(Riverside educational monographs)

1474. Otis, Arthur S. "The reliability of spelling scales, involving a definition formula," for correlation of school and society, 676-83, 716-22, 750-56, 793-96, October 28, November 4, 11, 18, 1916. *Journal of Educational Psychology*, 10: 716-22, 750-56, 793-96.
1475. Pitt, St. George, and Lane Fox. "The purpose of education and examination of the education problem in the light of recent psychological research. New ed., with preface by Prof. Emile Boutroux. Cambridge, The University Press, 1916. 144 p. 12s.
1476. Smith, James H. Individual variations in arithmetic. *Elementary school journal*, 17: 195-200, November 1916.
- Results obtained from using Cleveland arithmetic tests on pupils of the elementary school of the University of Chicago. Purpose of study to determine some of the causes of individual variations in arithmetic and to note the effects of certain corrective exercises.

1477. Stedman, Henry R. Mental pitfalls of adolescence. Boston medical and surgical journal, 175: 695-703, November 16, 1916.
- A scholarly and exhaustive study of *dementia precox*, which attacks with great frequency adolescents of marked intelligence and promise. Effects of over-study and poor nutrition discussed.
1478. Thorndike, Edward L. English composition, 150 specimens arranged for use in psychological and educational experiments. New York city, Teachers college, Columbia university, 1916. 127 p., 8s.
1479. Woody, Clifford. Measurements of some achievements in arithmetic. New York city, Teachers college, Columbia university, 1916. 63 p. diagrs. 8s.
- (Teachers college, Columbia university. Contributions to education, no. 80)

SPECIAL METHODS OF INSTRUCTION.

1480. Goddard, H. W. Laboratory teaching. School science and mathematics, 16: 710-19, November 1916.
- Discusses the origin of laboratory work, specific application to laboratory methods, the greatest defect of present laboratory methods, pedagogy of the present plan, and improvement of present methods.
1481. Haight, Harry W. The case system of teaching hygiene in graded schools. *Educational review*, 52: 385-91, November 1916.
- The writer says that the minds of young children in all grades of the public schools are mature enough so that the case system can be used with advantage. It is "the method of choice in teaching hygiene." The term comes from the practice of giving out case records for study and recitation rather than lectures or lessons from a textbook.
- Continued from *Educational review* for May 1916.
1482. Rosenbarger, W. E. The problem method in teaching history. Normal instructor and primary plans, 26: 33-34, 74, November 1916.
- Shows how the problem method may be applied to the study of political history, economic and industrial history, and social history.

SPECIAL SUBJECTS OF CURRICULUM.

1483. Beach, Frank A. Music in the normal school. *School music*, 17: 21-27, September-October, 1916.
- Address before the Department of music education of the National education association, July 5, 1916.
1484. Boese, A. G. French phonetic training in the University high school. *School review*, 24: 875-79, November 1916.
- Contains tables of the French vowel-sounds and consonant sounds, alphabet of the Association phonétique internationale.

1485. **Breslich, Ernst, and others.** Course of study in secondary mathematics in the University high school, the University of Chicago. School review, 24: 648-74, November 1916.
An elaborate exposition of the subject. Discusses the problem of mathematical reorganization along the lines of correlation.
1486. **Brown, Gladys Arthur.** Instrumental music in our public schools. Music supervisors' journal, 3: 12, 14, 16, 18, November 1916.
To be concluded in January issue.
A questionnaire was sent to 200 music supervisors inquiring (1) about their instrumental organizations and whether they give credit for the work, and (2) about crediting outside instrumental lessons. The results of this investigation are given.
1487. **Brown, Robert M.** Questioning in geography. Education, 37: 167-73, November 1916.
A plea for improving the art of questioning in geography. Discusses the various methods in vogue.
1488. **Coulter, John G.** Present tendencies in teaching elementary science. Educational review, 52: 357-71, November 1916.
A paper read before the Biology teachers' association of New York, March 3, 1916.
Discusses the two-year plan, the most conspicuous and influential example of which is the one embodied in the report of the biology committee of the National education association. What has been accomplished in New York.
1489. **Cushing, Sumner W.** High-school commercial geography. Journal of geography, 15: 87-91, November 1916.
Prepared for a Bulletin on commercial education to be issued by the Massachusetts Board of education.
1490. **Fillers, H. D.** A concrete investigation of oral and written errors in grammar. Texas school journal, 34: 11-15, October 1916.
1491. **Game, Josiah Bethea.** Teaching high-school Latin; a handbook. Chicago, Ill., The University of Chicago press [1916] 125 p. 12°.
Contains bibliographies.
1492. **Giles, F. M.** The teaching of commercial geography. School review, 24: 596-602, October 1916.
Discusses a line of development followed in the De Kalb Township high school, in the past four years, in working over the subject of commercial geography. Gives an outline for teaching commercial geography.
1493. **Gray, William S.** A study of the emphasis on various phases of reading instruction in two cities. Elementary school journal, 17: 178-86, November 1916.
Discusses the recent studies of reading made in connection with the Cleveland survey and the St. Louis survey. A comparison of the methods in vogue in the two cities shows "the need of additional emphasis on thoughtful mastery of the printed page on the part of Cleveland."
1494. **Highsaw, James Leonard.** Interscholastic debates in relation to political opinion. Quarterly journal of public speaking, 2: 365-82, September 1916.
This paper is an abstract of a thesis accepted by the University of Wisconsin Department of political economy for the degree of Master of arts.
Shows how the interscholastic high school debate influences political opinion.
1495. **Klapper, Paul.** The teaching of arithmetic, a manual for teachers. New York, Chicago, D. Appleton and company [1916] 387 p. 12°.
1496. **Leonard, Sterling Andrus.** The correction and criticism of composition work. English journal, 5: 598-604, November 1916.
Address given before the National council of teachers of English, New York City, July 7, 1916. Adapted from chapters 3 and 4 of English composition as a social problem, in publication as a Riverside educational monograph.

1497. **Little, Vivian Gray.** Music in schools and colleges. A ten-years' survey. A selected bibliography. Edited and expanded by Peter W. Dykema. Music supervisors' journal, 3: 7-10, November 1916.
To be continued.
This bibliography was prepared as a thesis in the library school of the University of Wisconsin in June, 1916.
1498. **Peet, Charles E.** Results of an investigation on the present status of high school physiography. School science and mathematics, 16: 702-709, November 1916.
1499. **Perkins, Albert S.** The Dorchester experiment in vocational Latin: a report of progress. Classical journal, 12: 131-44, November 1916.
Read before the annual meeting of the Classical association of New England, 1916.
1500. **Pinloche, A.** Faut-il supprimer l'allemand, ou quelle place lui donner? Revue de l'enseignement des langues vivantes, 33: 345-52, August-September-October 1916.
The author states that whether the German language is loved or not the knowledge of it is a necessity. He considers it from three points of view, the practical, pedagogic, and its value for "candidates."
1501. **Ripley, Frederick H.** Absolute music in the elementary school. School music, 17: 8-14, September 1916.
Address delivered before the Department of music education of the National education association, July 5, 1916.
1502. **Schütz, Marcel.** L'enseignement de l'allemand après la guerre. Revue de l'enseignement des langues vivantes, 33: 337-44, August-September-October 1916.
The author maintains that German should be taught in French schools not only because it is inoffensive but because even from a national standpoint it is useful, necessary, and indispensable.
1503. **Sears, Louis M.** Content and method in industrial history. School review, 24: 680-91, November 1916.
1504. **Smith, Myra A.** Debating problems in high school and college. Education, 37: 160-66, November 1916.
Writer says that the quality of the debating in intercollegiate contests has invariably improved since many of the colleges have dispensed with all faculty coaching.
1505. **Tryon, B. M.** Household manufactures in the United States: a quarter-century of developments. Elementary school journal, 17: 163-77, November 1916.
This article is Chapter 4 of a forthcoming work by the writer on the History of household manufactures in the United States, 1640-1890. Illustrates "the trend of modern historical studies toward a consideration of economic and social facts rather than toward a treatment of political occurrences as the sole content of history." To be continued.
1506. The war and the professor of literature. Unpopular review, 6: 367-80, October-December 1916.
Professors of literature as interpreters of the spirit of a nation.

KINDERGARTEN AND PRIMARY SCHOOL.

1507. **Hill, Mary D.** The educational values which the child carries over from the kindergarten into the primary grades. Kindergarten and first grade, 1: 371-75, November 1916.
Paper read at National education association convention, New York.

1508. **Kready, Laura F.** A study of fairy tales. Boston, New York [etc.] Houghton Mifflin company [1916] xvii, 313 p. 12°.

Introduction by Henry Sussallo, president of the University of Washington.

Presents a single motif of children's literature, Fairy tales, with the aim of organizing this small portion of the curriculum for the child of five, six, or seven years, in the kindergarten and first grade.

1509. **Montessori, Maria.** Education in relation to the imagination of the little child. Kindergarten-primary magazine, 29: 84-86, November 1916.

RURAL EDUCATION.

1510. **Virginia. University.** Rural life conference. Proceedings of the ninth Rural life conference, held at the University of Virginia summer school, July 17-21, 1916. Charlottesville, Va., University of Virginia press, 1916. p. 417-96. 8°. (Alumni bulletin of the University of Virginia, vol. 9, no. 4, August 1916)

Contains: 1. G. P. Mayo: The call of the mountains to the church and state, p. 421-30. 2. J. H. Binford: An ideal system of country schools, p. 440-47. 3. Miss Willie B. Young: The girl in the country, p. 462-64. 4. C. W. Thompson: Rural organization problems, p. 465-70. 5. J. T. Watts: The achievements of the country Sunday school, p. 476-79. 6. A. L. Hall-Quest: The personality of the teacher, p. 480-87. 7. W. M. Forrest: Bible courses for high school students, p. 492-96.

1511. **Grote, Caroline.** The Illinois rural school survey. Illinois teacher, 5: 48-51, November 1916.

Continued from October number, and still uncompleted. This section deals with methods of instruction and training of teachers.

SECONDARY EDUCATION.

1512. **Aldrich, F. B.** The distribution of high-school graduates in Kansas. School review, 24: 610-16, October 1916.

Writer says that the two main functions of the high schools in Kansas are to prepare the graduate to teach and to fit him to enter the liberal arts colleges.

1513. **Ayer, Fred C.** High school efficiency—how rated? School review, 24: 584-95, October 1916.

Gives in brief form a score card for school buildings and equipment. Presents a bibliography, p. 594-95; also an analytical outline of high-school efficiency. This paper was read at the University of Oregon conference, June 1916.

1514. **Churchill, Thomas W.** Making the high school democratic. School review, 24: 569-73, October 1916.

Discusses the newer ideals of education; extension of high school work among the masses. Considers the activities of the Washington Irving high school, New York city.

1515. **Griffin, Orwin Bradford.** The junior high school. Journal of education, 84: 399-402, October 26, 1916.

A topical outline dealing with the reasons for the junior high school, its advantages and organization.

1516. **Inglis, Alexander J.** The junior high school. Some principles affecting its organization and administration. Harvard teachers' association leaflet, 2: 1-9, October 1916.

Discusses (1) Principles arising out of the nature of the pupils, (2) Principles arising out of social demands, (3) Principles arising out of the means available.

1517. **Kohl, Clayton C.** The weaknesses of high school instruction. Bulletin of the High school teachers association of New York city, no. 63: 1-20, September 1916.

1518. **Rutherford, W. B.** The junior high school. *Oregon teachers monthly*, 21: 149-51, November 1916.
Discusses the organization, course of study, teacher and material equipment of the junior high school.
1519. **Rynearson, Edward.** Socialization of the high school. *School review*, 24: 692-700, November 1916.
Says that the great need in our changing social life is "an equipment for the right use of leisure." Shows what the high school can accomplish in this direction. Discusses the subjects which should be included in the course of study, etc.

TEACHERS: TRAINING AND PROFESSIONAL STATUS.

1520. **Ayer, Fred C.** Training teachers of sex hygiene. *Oregon teachers monthly*, 21: 135-41, November 1916.
1521. **Chambers, Will Grant.** The professional school vs. the college in the training of secondary teachers. *School and society*, 4: 647-58, October 28, 1916.
The writer says that "a junior college course of two years followed by three years in a school of education would yield better results than a four years' college course followed by a graduate year in education."
1522. **Childs, Edward P.** The selection of teachers. *American school board journal*, 53: 17-19, 70-71, November 1916.
1523. **Church, Clarence C.** The rural teacher's opportunity for leadership. *American schoolmaster*, 9: 337-46, October 1916.
Gives suggestions of the large opportunities offered by the country school to teachers who have the knack and taste for leadership.
1524. **Corbett, Henry B.** Pensions for teachers. *Northwest journal of education*, 28: 106-108, November 1916.
Deals with the nature of teachers' pension funds and some of the general laws inherent in their operation.
1525. **Crabtree, James W.** The training of teachers for special branches. *American schoolmaster*, 9: 347-54, October 1916.
Address delivered before the general session of the National education association, in New York city, July 4, 1916.
1526. **Gray, A. A.** The teacher's home. *Elementary school journal*, 17: 201-8, November 1916.
Says that more married men teachers will go into the country schools if cottages are furnished. Eighty-two per cent of the rural teachers of Denmark are men. Shows what some of the states are doing in providing homes for teachers.
1527. **Guigue, Albert.** L'éducation pédagogique des intérimaires pendant la guerre. *Revue pédagogique*, 68: 103-41, August 1916.
A description of the means taken to continue the training of substitute teachers who, because of the vacancies created by the war, have been given positions before completing their normal courses.
1528. **Hall-Quest, Alfred L.** Scales for measuring personality and efficiency. *Virginia journal of education*, 10: 60-64, October 1916.
Gives the data by F. L. Clapp, the Ruediger and Strayer scale, the Elliott scale, the Illinois scheme, card of rating at the University of Illinois, and the Waterloo, Iowa, analysis of the teacher.
1529. **Henry, T. S.** Standards of "good form" in classroom teaching. *School and home education*, 36: 72-77, November 1916.
Discusses some of the more tangible aspects of "good form" in classroom instruction and, on the negative side, points out "certain practices which are generally considered as evidences of faulty technique."
1530. **High-school salaries.** *School review*, 24: 632-33, October 1916.
Tabulation of questionnaires on high-school salaries, furnished by M. G. Clark, superintendent of Sioux City schools, dated May 8, 1916.

1531. **Johnston, Joseph H.** Teacher-rating in large cities. *School review*, 24: 641-47, November 1916.

Lays emphasis, in particular, on the new rating-forms just prepared for use in Boston, described as "the most elaborate scheme of teacher-rating yet devised in any school system."

1532. **Shurick, Edward Palmes.** The teacherage; a pamphlet of valuable information on rural school house construction. [Duluth, Minn., Shurick & Hansen company, 1916] 47 p. illus. (incl. plans) 4°.

1533. What teacher's like. Editorial comment, designed to call attention to a series of significant measuring scales here reproduced. *Utah educational review*, 10: 7-11, September-October 1916.

Gives the measuring scale of the Utah state department of education, the Institute for public service of New York city, and the measuring scale of Logan, Utah.

HIGHER EDUCATION.

1534. **Bentley, R. C.** The claims of collegiate teaching. *School and society*, 4: 635-94, November 4, 1916.

Sets forth "certain features of experiment persisted in and continuously modified through several years of work in a college-university course in secondary education."

1535. **Dealey, Hermione L.** The problem of the college sorority. *School and society*, 4: 735-40, November 11, 1916.

Gives the arguments for and against the college sorority, and in conclusion says that "Social progress has demonstrated the general wisdom of fair regulation in preference to elimination without adequate analysis of conditions."

1536. **Fletcher, Thomas.** The Department of school visitation. *Texas school journal*, 34: 19-22, September 1916.

The purposes, machinery, and work of the Department of school visitation of the University of Texas.

1537. **Hayden, Felix.** College dramatics. *America*, 16: 117-18, November 11, 1916.

Criticises the plays selected for college dramatics and the selections chosen for elocution contests.

1538. **Holliday, Carl.** The municipal university. *American city*, 15: 495-503, November 1916.

Treats of the origin, growth, theory and practice, and actual workings of the municipal university. Says that the city is the logical site for a great school, for it is in itself largely a university, with its libraries, museums, hospitals, art galleries, and great industries.

1539. **Hopkins, Ernest Martin.** The college of the future. *School and society*, 4: 609-17, October 21, 1916.

Address of the president of Dartmouth college, delivered on the occasion of his inauguration October 6, 1916.

1540. **Lovejoy, Arthur O.** The future of the Carnegie foundation. *Nation*, 103: 417-19, November 2, 1916.

Discusses the recommendations recently made by President Pritchett and published as Bulletin No. 9 of the Carnegie foundation, entitled A comprehensive plan of insurance and annuities for college teachers.

1541. **Lowell, A. Lawrence.** Scientific study of education. *Harvard alumni bulletin*, 19: 58-62, October 19, 1916.

Address delivered at the semi-centennial of Carleton college, Northfield, Minn., October 15, 1916.

1542. **Lull, Herbert G.** Notes on the uncompleted work of a committee on freshman instruction. *School review*, 24: 574-83, October 1916.

Report of a committee appointed by the president of the University of Washington two years ago.

1543. **Manuel, Herschel T.** Is the college "smoker" a worthy social institution? School and society, 4: 699-705, November 4, 1916.

In support of the negative of the question the writer says "first, with reference to the larger group smoking is unsocial; second, the cost of smoking is too great for the returns; third, public smoking tends to be unsanitary; fourth, smoking is unhygienic; fifth, the college smoker tends to spread and make permanent in the lives of students practices which are undesirable, and, finally, such an institution as the smoker is particularly out of harmony with the best ideals of that for which a college should stand."

1544. **Merry, Glenn N.** College plays in the United States. Quarterly journal of public speaking, 2: 383-96, September 1916.

Gives a list of plays produced in colleges and universities during the last five years, together with such information as publisher, classification, number of acts, number of stage settings, number of male and female characters, and the percentage of satisfaction which the play gave the community.

1545. **Musselman, H. T.** The place of a state university in the life of the state. Texas school journal, 34: 23-26, September 1916.

"The first place of a state university is to train the men and women who enter the professional walks of life, and the second and higher place is to discover and train the great leaders of life." A state university must also carry on some university extension work.

1546. **Oviatt, Edwin.** The beginnings of Yale (1701-1726). New Haven, Yale university press, 1916. xxxi, 456 p. illus. 8°.

1547. **Poole, Murray Edward.** A story historical of Cornell university, with biographies of distinguished Cornellians. Ithaca, N. Y., The Cayuga press, 1916. 227 p. 8°.

1548. **Seligman, E. R. A.** The real university. Educational review, 52: 325-37, November 1916.

Defines the university as an institution that endeavors to promote and to impart intellectual freedom; the university is "the emancipator." Says that "the university, through the liberation of the intellect, is humanizing mankind. . . . The imperious demand of the modern community that the university shall render public service and shall be in close touch with every phase of instructed social activity is clearly irresistible."

1549. **Spalding, H. S.** Endowment of men and endowment of money. Educational review, 52: 392-402, November 1916.

Discusses the standardization of colleges, etc. The case of the Catholic colleges.

1550. **Thwing, Charles Franklin.** The training of men for the world's future. New York, The Platt & Peck co. [1916] 89 p. 12°.

"The university desires through lasting and fundamental forces so to contribute to the future that the world shall become a condition in which righteousness, both intellectual and moral, shall rule."

SCHOOL ADMINISTRATION.

1551. **Baker, George M.** Financial practices in cities and towns below twenty-five thousand. American school board journal, 53: 23-25, November 1916.

To be continued.

"This article is the second instalment of an important series of papers discussing financial practices of school boards in small cities and villages." Deals particularly with the school budget.

1552. **Kendall, C. N.** Meditation of a member of a board of education. School news, 6: 3-4, November 1916.

Gives the ideals and duties of a school-board member.

1553. Six months of school administration in Buffalo under the commission charter, prepared by the publicity committee of the Public education association. Journal of education, 84: 339-42, October 12, 1916.

1554. **Trusler, Harry R.** Rights of pupils in public schools. American school board journal, 53: 28-29, 66-67, November 1916.

One of a series of articles which will be published in book form.

Deals with the right to attend the public schools, segregation of pupils of different races, compulsory school attendance, and tuition.

SCHOOL MANAGEMENT.

1555. **Brooks, E. C.** The value of home study under parental supervision. *Elementary school journal*, 17: 187-94, November 1916.
Results obtained in a study of the fourth, fifth, and sixth grades of the city schools of Durham, N. C. Writer concludes that when circumstances make "it impossible for the home to assist in the child's education some provision should be made in school to supply that deficiency without taking over permanently functions that naturally belong to the home."
1556. **Coffman, Lotus D.** Differentiated curriculums versus minimum essentials. *American school*, 2: 264-66, September 1916.
1557. **Du Shane, Donald.** The intermediate grades and departmentalization. *Elementary school journal*, 17: 151-62, November 1916.
Discusses the results of the departmentalization of the intermediate grades, based on observations made by the writer, on the opinions of departmental teachers, and on interviews with children of these grades. Second article of series.
1558. **Fishback, E. H.** Adapting the work of the seventh and eighth grades to the needs of the children and the community. *Educator-journal*, 17: 132-36, November 1916.
Gives the academic and manual arts courses which are given in the schools of Hackensack, New Jersey.
1559. **Iowa state teachers' association.** Committee on elimination of subject matter. Elimination of obsolete and useless topics and materials from the common branches. The positive program; being a report of a committee of the Iowa state teachers' association, November 1916. Pub. as an educational bulletin by the Iowa state teachers' association. [Des Moines, Iowa state teachers' association, 1916] 152 p. 8°.
On cover: Second report of the Committee on elimination of subject matter.
Outlined in *Midland schools*, 31: 70-72, November 1916, by G. M. Wilson, chairman.
1560. **Terry, H. L.** Tests and examinations. *School and society*, 4: 673-76, October 28, 1916.
Gives a few typical examination questions, shows how impracticable they are, and suggests other questions that might be used.
1561. **Wilde, Arthur H.** The principal's duty in improving instruction. *School review*, 24: 617-25, October 1916.
Maintains that it is impossible "to direct the instruction of the school unless the head of it has a voice in the selection of teachers. The principal, therefore, should take the initiative in filling all vacant instructorships in the high school."

SCHOOL ARCHITECTURE.

1562. **Minneapolis.** Board of education. A million a year; a five-year school building program, including discussion of some fundamental educational policies. Approved and ordered published by unanimous vote of the Board of education, city of Minneapolis. [Minneapolis] 1916. 90 p. illus. 8°.
(Monograph no. 1. Series of 1916-17)

SCHOOL HYGIENE AND SANITATION.

1563. **Flannagan, Roy K.** The physical welfare of the child and the teacher. *Virginia journal of education*, 10: 55-58, October 1916.
From rural standpoint.
"Read before the section on 'Contagious diseases and the teacher' of the American school hygiene association, New York city, July 1916."
1564. **O'Shea, M. V.** Deformities due to school seats. *Mother's magazine*, 11: 17-18, November 1916.
Shows the necessity for adjustable desks and seats for school children.

1565. **Rapeer, Louis W.** Standardizing lighting and ventilation in public schools. *Journal of education*, 84: 451-54, November 9, 1916.
1566. **Strong, Anne Hervey.** Some problems in the training of school nurses. *Teachers college record*, 17: 353-60, September 1916.

PHYSICAL TRAINING.

1567. **Philadelphia, Pa. Board of education.** A four years' course of study in physical training for boys' and girls' high schools. *Mind and body*, 23: 71-74, 104-108, 149-53, 222-24, 266-67, 319-22, April-November 1916.
In three parts: Part I, Determining principles; Part II, Physical training material for boys; Part III, Physical training material for girls.
1568. **Poos, E. A.** Physical activities for boys in secondary schools. *American physical education review*, 21: 415-22, October 1916.
Discusses equipment, time, instruction, recognition, floor work, apparatus work, and athletics.
1569. **Rapeer, Louis W.** Minimum essentials of physical education. *American physical education review*, 21: 423-27, October 1916.
1570. **Reeseburg, Walter J.** More wholesome athletics. *Journal of education*, 84: 428-30, November 2, 1916.
The writer says that "athletic games present an ideal environment for the teaching of clean and honest living, and the athletic coach who is responsible directly for the discipline of the boys has here a vast field for action." Shows a number of ways in which the athletic coach can help to mould character.
1571. **Somers, Florence A.** The right kind of athletics for girls. *Mind and body*, 23: 304-309, November 1916.
Read at the convention of the American physical education association, Cincinnati, Ohio; April 1916.

SOCIAL ASPECTS OF EDUCATION.

1572. **Co-operative education association of Virginia.** Community league bulletin, giving plan of organization, constitution and by-laws, suggestions for the work of each committee. . . Issued jointly by state departments of health, education, highways, agriculture, dairy and food, charities and corrections, and Virginia polytechnic institute. Richmond, Davis Bottom, superintendent of public printing, 1916. 48 p. illus. 8°.
1573. **Wolfe, Albert Benedict, ed.** Readings in social problems. Boston, New York [etc.] Ginn and company [1916] 804 p. 8°.
Contains sections on Eugenics, Assimilation of the immigrant, Education of women, Education of the Negro, etc.

CHILD WELFARE.

1574. **Bayliss, Clara Kern.** Child labor laws in the United States. *School news and practical educator*, 30: 102-103, November 1916.
To be continued.
Gives some of the worst features of the laws.
1575. **National child labor committee.** Proceedings of the twelfth annual conference on child labor, Asheville, N. C., February 3-6, 1916. New York, National child labor committee, 1916. 78 p. 8°. (Child labor bulletin, vol. 5, no. 1, May 1916)
1576. **Walker, Julia Fried.** The home life of the child. *Self expression in society. Colorado school journal*, 32: 16-17, October 1916.
The necessity that the home teach the child obedience and the habit of work.

MORAL EDUCATION.

1577. **Schneider, Herbert W.** Dualism in modern theories of moral education. Educational review, 52: 372-84, November 1916.

Decries the hopelessness of such theories in our present-day industrial democracy. He says this dualism in modern theories is medieval. "Most of our theories of moral education confine themselves either to instruction in ideas about morals, or to the assumption that character will somehow result from the instruction offered in the curriculum, regardless of whether the curriculum is directly and specifically related to moral action."

RELIGIOUS EDUCATION.

1578. **Catholic educational association.** Report of the proceedings and addresses of the thirteenth annual meeting, Baltimore, Md., June 26-29, 1916. Columbus, Ohio, Catholic educational association, 1916. 504 p. 8°. (Catholic educational association bulletin, vol. 13, no. 1, November 1916.) (Rev. F. W. Howard, secretary, 1651 East Main street, Columbus, O.)

Contains: 1. T. E. Shields: Some relations between the Catholic school system and the public school system, p. 51-62. 2. J. F. Fanlon: The state, p. 63-82. 3. C. B. Carroll: Educating to citizenship, or patriotism in education, p. 82-90. 4. Matthew Schumacher: [Standardizing Catholic colleges], p. 91-98. 5. J. W. Maguire: Why sociology should be taught in our Catholic colleges, p. 108-13; Discussion, p. 113-16. 6. I. A. Wagner: The place of general science in the curriculum, p. 116-22. 7. Brother Potamian: Astronomy—a plea for a neglected study, p. 122-28. 8. P. J. Downing: How much and how shall we study the style of the author in the class-room? p. 140-53. 9. C. J. Pernin: Scholasticism and pedagogy, p. 167-74; Discussion, p. 174-77. 10. J. H. Haaren: The Gary school plan, p. 223-30; Discussion, p. 230-40. 11. Brother Peter: To teach pupils to study: an end in elementary education, p. 241-61; Discussion, p. 261-60. 12. Brother Azarias: The accurate keeping of school records, p. 261-73; Discussion, p. 274-77. 13. A. F. Hickey: To train for the formation of good habits—a problem in school management, p. 277-84; Discussion, p. 284-88. 14. J. P. McNichols: To teach children to speak their mother tongue correctly, p. 288-96. 15. W. J. Fitzgerald: Classroom management, p. 299-311; Discussion, p. 311-12. 16. John Garvin: The lesson-plan, p. 313-27; Discussion, p. 327-34. 17. Madeleine A. Hollowell: The problem of feeble-mindedness, p. 335-49. 18. Albert Muntach: Coeducation from a Catholic standpoint, p. 352-66; Discussion, p. 366-70. 19. W. F. Lawler: Practice schools and training classes for our young teachers, p. 370-75. 20. Brother Gordian: The necessity of essentials in elementary education, p. 387-94. 21. Sister M. Borgia: A visit to schools for the deaf in the United States and Canada, p. 418-38.

1579. **Barry, Sinclair.** On the education of boys. America, 16: 45-46, October 21, 1916.

The Catholic versus the secular college.

1580. **Cope, Henry Frederick.** The modern Sunday school and its present day task. New York, Chicago [etc.] Fleming H. Revell company [1916] 252 p. 12°.

1581. **Crafts, Wilbur Fisk.** Bible in schools plans of many lands; documents gathered and comp. for Council of church boards of education, 1914. Rev. and enl. ed., 1916. Washington, D. C., Illustrated Bible selections commission [1916] 192 p. 8°.

Bibliography: p. 128-130.

1582. **Heathcote, Charles William.** The essentials of religious education. Boston, Sherman, French & company, 1916. 290 p. 12°.

1583. **Iowa state teachers' association.** Educational council. Report of Committee on school credit for Bible study, religious instruction, and moral training. Des Moines, Iowa, Welch press, 1916. 16 p. 8°.

Chairman of committee: Arthur E. Bennett, Des Moines.

1584. **McConaughy, James; McConaughy, James L. and Bartow, Harry Edwards.** Sunday-school teaching and management; a first standard training course for Sunday-school workers and older pupils especially in smaller schools. Philadelphia, American Sunday-school union [1916] 199 p. 16°. (Green fund book no. 21)

1585. **Shields, Thomas Edward.** The ultimate aim of Christian education. Catholic educational review, 12: 301-17, November 1916.
1586. **Virginia. State board of education.** Official syllabus of Bible study for high school pupils. Approved and authorized by the State board of education, Richmond, Va., August 29, 1916. Charlottesville, Va., Published by the University, 1916. 48 p. 8°. (University of Virginia record. Extension series, vol. 2, no. 1, September 1916)

MANUAL AND VOCATIONAL TRAINING.

1587. **National association of corporation schools.** Fourth annual convention. Addresses, reports, bibliographies and discussions. Pittsburgh, Pa., May 30 to June 2, 1916. Published by order of the Executive committee [1916] 804 p. 8°. (Lee Galloway, secretary, New York university, New York, N. Y.)
Contains: 1. Report of committee on special training schools, p. 85-133. 2. Report of committee on trade apprenticeship schools, p. 138-228. 3. Report of committee on public education, p. 233-62. 4. Report of committee on vocational guidance—Pt. I. The organic development of business, p. 278-301.—Pt. II. Suggested machinery, p. 302-63.—Pt. III. Appendices, p. 364-444. 5. Round table on vocational guidance, p. 445-67. 6. Report of committee on advertising, selling and distribution schools, p. 476-517. 7. Report of committee on retail salesmanship, p. 523-49. 8. Report of committee on office work schools, p. 556-653. 9. Report of committee on employment plans, p. 661-98. 10. Report of committee on unskilled labor, p. 741-68.
1588. **Apprentice school of the Lakeside press.** National association of corporation schools bulletin, 3: 33-41, November 1916.
Established to meet the requirements of both employer and employee—the advantages that have been gained.
1589. **Bennett, Charles A.** Vocational education in the city of Anderson, Indiana. Manual training magazine, 18: 81-89, November 1916.
"This is the first of several editorial articles which will appear from time to time on the work of selected schools and systems of schools in which vocational training or instruction in the manual arts has become an important factor."
1590. **Cant, R. McK.** Training for salesmanship. World's work (London) 28: 542-45, November 1916.
1591. **Currier, Walter Barron.** Practical art education. Industrial-arts magazine, 5: 469-72, November 1916.
1592. **Fleming, A. P. M. and Pearce, J. G.** The principles of apprentice training, with special reference to the engineering industry. London, New York [etc.] Longmans, Green and co., 1916. 202 p. 12°. Bibliography: p. 196-197.
1593. **Griffith, Ira S.** Relative values in the manual arts. Manual training magazine, 18: 89-95, November 1916.
1594. **Haney, James Parton.** Industrial art at home and abroad. Pennsylvania school journal, 65: 156-59, October 1916.
1595. **Harrison, Frank.** Continuation schools for children of school age. School and society, 4: 617-24, October 21, 1916.
Shows the importance of further education for those who leave school early, and says that the continuation school is necessary for those entering industry early to supplement poor home training in morals, civic duty, and political rights.
1596. **Merchant, C. J.** The story of the Elmira vocational school. Industrial-arts magazine, 5: 478-81, November 1916. illus.

1597. **New York (State) University.** Division of agricultural and industrial education. The manual arts in New York state, by Royal B. Farnum, state specialist in art education. Albany, The University of the state of New York, 1916. cover-title, 13 p. 23 pl. 8°. (University of the state of New York bulletin, no. 625)

1598. **Winalow, Leon Loyal.** Education through industrial arts. Ohio educational monthly, 65: 511-16, October 1916.

This paper was read before the Manual arts section of the Northwestern Ohio teachers' association, which met at Toledo on November 13th and 14th, 1916.

VOCATIONAL GUIDANCE.

1599. **Bonser, Frederick G.** The curriculum as a means of revealing vocational aptitudes. Education, 37: 145-59, November 1916.

A plea for vocational guidance. Writer says: "With the work of the whole public school shot through and through with vocational motives and life values, the identities between school activities and life activities will become so constant and clear that school work in itself may very largely become a process of vocational guidance."

1600. **Kitson, Harry D.** Interest as a criterion in vocational guidance. Educational review, 52: 349-56, November 1916.

Says that real vocational guidance does not commit a person inalienably to a single vocational possibility. It does not set limits upon his achievements, but encourages him to develop himself to the highest possible degree.

1601. **Seashore, Carl E.** Vocational guidance in music. Music supervisors' journal, 3: 18, 20, 22, 24, 26, 28, November 1916.

Deals with the music talent chart, music surveys in the public schools, the economic value of vocational guidance in music, etc.

1602. **Wheatley, W. A.** An outline of educational and vocational guidance adapted to the smaller centres. Journal of education, 84: 438-39, November 2, 1916.

Presented at Harvard university conference of high school principals, Cambridge, Mass., in June 1916.

1603. **Woolley, Helen T.** The mind of a boy: the future of experimental psychology in vocational guidance. Survey, 37: 122-25, November 4, 1916.

The writer says that the application of experimental psychology to vocational guidance is in a research phase. Describes the work of the Psychological laboratory of the vocational bureau in Cincinnati, which is an integral part of a vocation bureau in a public school system.

AGRICULTURAL EDUCATION.

1604. **Carris, Lewis H.** Vegetable gardening as a school project. Atlantic educational journal, 12: 146-51, November 1916.

Shows the relation of work in vegetable growing to other school subjects.

1605. **Dean, William Harper.** The all-American movement. The meaning of achievement. Mother's magazine, 11: 11-13, 79, November 1916.

Boys' and girls' club work.

1606. **Wagh, Frank A.** The agricultural college; a study in organization and management and especially in problems of teaching. New York, Orange Judd company, 1916. 260 p. 12°.

HOME ECONOMICS.

1607. **Kinne, Helen.** Equipment for teaching domestic science. 5th printing. Boston, Mass., Whitcomb & Barrows, 1916. 104 p. illus. 8°.

PROFESSIONAL EDUCATION.

1608. **National league of nursing education.** Proceedings of the twenty-second annual convention . . . held at New Orleans, La., April 27 to May 3, 1916. Baltimore, Williams & Wilkins company, 1916. 357 p. 8°. (Effie J. Taylor, secretary, Johns Hopkins university, Baltimore, Md.)

Contains: 1. Katharine Tucker: The training school's responsibility in public health nursing education, p. 113-17. 2. Elisabeth Golding: What can the training school do to graduate better private duty nurses? p. 119-22. 3. Helen Cleland: Is it desirable to include training for executive positions in the three years course? p. 123-26. 4. E. M. Lawler: How much time should be allowed for specialisation during the training school course? p. 127-40. 5. Sara E. Parsons: The training school prospectus and its educational possibilities, p. 171-74. 6. Isobel Fleming: Textbooks for nurses, p. 174-81. 7. E. J. Taylor: Why does the nurse in the general hospital need training for mental work? p. 195-204. 8. Ida J. Ansted: The problems and possibilities in state hospital training schools, p. 208-15. 9. Isabel M. Stewart: The teaching of home nursing and first aid, p. 229-52. 10. S. Lillian Clayton: The purpose and place of ethics in the curriculum, p. 252-56. 11. Rudolph Matas: Some educational problems of mutual interest to the physician and the nurse, p. 270-85. 12. Adelaide Nutting: Some ideals in training school work, p. 291-301.

1609. **Clark, Calvin Montague.** History of Bangor theological seminary. Boston, New York [etc.] The Pilgrim press [1916] xix, 408 p. illus. 8°.

1610. **James, Eldon R.** The law school and the practicing lawyer. American law school review, 4: 212-17, November 1916.

A paper read before the section of legal education of the American bar association, Chicago, Ill., August 30, 1916.

Discussed in full by H. V. Mercer, in same number of the Review, p. 217-22.

1611. **Longcope, W. T.** Mile-stones in medicine. Educational review, 52: 338-48, November 1916.

"The milestones of medicine," says the writer, "as of all the sciences, are marked by men's names, not by the actions of committees, of senates or of nations." Sketches briefly the history of medical research work.

1612. **Vold, Lauriz.** System of study for students under the case method of instruction. American law school review, 4: 194-201, November 1916.

Presents a program of study, etc.

1613. **Watt, Homer A.** The English department and the professional schools. Engineering education, 7: 73-89, October 1916.

CIVIC EDUCATION.

1614. **American political science association.** Committee on instruction. The teaching of government. Report to the American political science association. New York, The Macmillan company, 1916. 284 p. 12°.

Members of committee: C. G. Haines, chairman; J. Lynn Barnard, Edgar Dawson, W. L. Fleming, Mabel Hill, F. E. Horack, J. A. James.

MILITARY TRAINING.

1615. **Gignilliat, L. R.** Arms and the boy; military training in schools and colleges, its value in peace and its importance in war, with many practical suggestions for the course of training and with brief descriptions of the most successful systems now in operation. Indianapolis, The Bobbs-Merrill company [1916] 371 p. front., plates, plan. 8°.

1616. **Howe, Lucien.** Universal military education and service. The Swiss system for the United States. New York and London, G. P. Putnam's sons, 1916. xiii, 138 p. 12°.

Favors universal military education for the people of the United States, including students in schools and colleges.

1617. **Military training in the high school.** *School education*, 36: 9-10, November 1916.

Discusses the wide extremes of opinion on the subject of introducing military training into the public schools, the value of drill, and the New York plan.

1618. **Report of the Military training commission.** *School bulletin*, 43: 31-34, October 1916.

Recommendations of the New York military training commission.

EDUCATION OF WOMEN.

1619. **Women's inter-collegiate association for student government.** A report of the conference . . . held at Western Reserve university, in November 1915. 38 p. 8°.

Gives rules and regulations of colleges in the Association in respect to attendance, dormitory regulations, penalties for theft, chaperon rules, etc.

1620. **Comstock, Sarah.** Your girl at school. *Good housekeeping*, 63: 43-44, 104, November 1916.

An illustrated article describing among other school activities training for wifehood and motherhood.

EDUCATION OF IMMIGRANTS.

1621. **Rockow, Lewis.** Americanization and the pillar of democracy. *Education*, 37: 174-83, November 1916.

Advocates a special training for teachers of our immigrant children. A knowledge of the social sciences is essential.

EDUCATION OF DEAF.

1622. **Pintner, Rudolf and Paterson, Donald G.** Measurement of the language ability of deaf children. *Psychological review*, 23: 413-36, November 1916.

1623. **Yearley, Macleod.** Hearing tests in school children. *Volta review*, 18: 440-42, November 1916.

From the *British Journal of children's diseases*, London, May 1916. Criticises the "set tests" of the school doctor. Praises the French method, known as the *leçon de silence*.

EXCEPTIONAL CHILDREN.

1624. **Claxton, P. P.** [Letter to the Editors] *Van Leuven Browne national magazine* (Detroit, Mich.), 5: 2, November 1916.

This letter comments appreciatively on the movement toward better governmental provision for the care and education of crippled children in the United States.

1625. **Fitts, Ada M.** How to fill the gap between special classes and institutions. *Ungraded*, 2: 1-8, October 1916.

Gives some suggestions of provisions that should be made for the feeble-minded, in respect to public school education and after-care.

1626. **Knox, Margaret.** How shall the children be selected for special classes? *Ungraded*, 2: 9-15, October 1916.

From the principal's point of view.

1627. **Patterson, M. Rose.** A study of the bright child in the school. *Atlantic educational journal*, 12: 68-74, October 1916.

This paper was prepared in connection with the Department of education, Teachers' college courses, Johns Hopkins university.

Treats the subject under the following headings: The bright child defined, contrast in treatment given the subnormal and the supernormal, the rights and values of the bright child, various plans for assisting the supernormal child in America and Germany, and a detailed study of the William Rinehart preparatory center no. 52, in Baltimore.

1628. Wallin, J. E. Wallace. A program for the state care of the feeble-minded and epileptic. School and society, 4: 723-31, November 11, 1916.

Recommendations made by the Children's code commission of Missouri, concerning the care and education of the feeble-minded and epileptic.

EDUCATION EXTENSION.

1629. National university extension conference. Proceedings of the first conference held at Madison, Wis., March 10-12, 1915. Convened by the University extension division, the University of Wisconsin. 269 p. 8°.

Contains: 1. C. R. Van Hise: The university extension function, p. 7-24. 2. L. E. Reber: The scope of university extension and its organization and subdivision, p. 25-36. 3. W. D. Henderson: General education through extension, p. 39-48. 4. J. H. Miller: Agricultural education in extension, p. 53-60. 5. A. H. Melville: The field work in extension, p. 63-69. 6. W. H. Lighty: Correspondence-study teaching, p. 75-83. 7. J. C. Egbert: Class lecture instruction, p. 83-90. 8. G. L. Sprague: The need and the opportunity for vocational training through university extension, p. 97-106. 9. E. B. Norris: University extension and industrial education, p. 107-13. 10. W. H. Henderson: The training courses for industrial teachers, p. 113-16. 11. R. L. Lyman: The relation of extension departments to debating and discussion clubs: pedagogical considerations, p. 125-31. 12. R. V. Phelan: Social center promotion, organization, and administration, p. 140-44. 13. H. E. Dearholt: Health instruction, p. 164-71. 14. C. W. Votaw: University extension service in its relation to local, intellectual and spiritual leadership, p. 177-85. 15. J. L. Gillin: Permanent results in community welfare work, p. 185-90. 16. J. J. Pettijohn: University extension lyceum service, p. 225-37. 17. P. F. Voelker: The university chautauqua, p. 238-44. 18. W. H. Dudley: Cooperation in visual instruction, p. 244-50. 19. Nathaniel Butler: The university extension lecturer, p. 251-55. 20. R. G. Moulton: The humanities in university extension, p. 255-58.

LIBRARIES AND READING.

1630. American library association. Papers and proceedings of the thirty-eighth annual meeting . . . held at Asbury Park, N. J., June 26-July 1, 1916. Chicago, Ill., American library association, 1916. p. 111-578. 4°. (*Its Bulletin*, vol. 10, no. 4, July 1916) (George B. Utley, secretary, A. L. A. Executive office, Chicago, Ill.)

Contains: 1. A. E. Bostwick: How the community educates itself, p. 115-22. 2. W. W. Bishop: Leadership through learning, p. 155-61. 3. J. F. Hosie: The place of the school library in modern education, p. 210-13. 4. H. E. Legler: How the public library can help in developing effective high school libraries, p. 213-15. 5. Albert Shiels: The immigrant, the school, and the library, p. 257-63. 6. H. H. Wheaton: An Americanization program for libraries, p. 265-69.

1631. Kerfoot, John B. How to read. Boston and New York, Houghton Mifflin company, 1916. 297 p. 12°.

1632. Moore, Annie E. The use of children's initiative in beginning reading. Teachers college record, 17: 330-43, September 1916.

List of pictures, apparatus, and books used, p. 342-43.

BUREAU OF EDUCATION: RECENT PUBLICATIONS.

1633. State higher educational institutions of Iowa. A report of a survey made under the direction of the Commissioner of education. Washington, 1916. 223 p. (Bulletin, 1916, no. 19)

1634. State pension systems for public-school teachers; prepared for the Committee on teachers' salaries, pensions, and tenure of the National education association, by W. Carson Ryan, jr., and Roberta King. Washington, 1916. 46 p. (Bulletin, 1916, no. 14)

BULLETIN OF THE UNITED STATES BUREAU OF EDUCATION

[NOTE.—Documents marked with an asterisk (*) may be obtained only from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price indicated. Remittances should be made direct to the Superintendent of Documents in coin, currency, or money order. Stamps are not accepted. Other publications will be sent free of charge upon application to the Commissioner of Education as long as the limited supply lasts.]

1913.

- *No. 1. Monthly record of current educational publications, January, 1913. 5 cts.
- *No. 2. Training courses for rural teachers. A. C. Monahan and R. H. Wright. 5 cts.
- *No. 3. The teaching of modern languages in the United States. Charles H. Handschin. 15 cts.
- *No. 4. Present standards of higher education in the United States. George E. MacLean. 20 cts.
- *No. 5. Monthly record of current educational publications, February, 1913. 5 cts.
- *No. 6. Agricultural instruction in high schools. C. H. Robison and F. B. Jenks. 10 cts.
- *No. 7. College entrance requirements. Clarence D. Kingsley. 15 cts.
- *No. 8. The status of rural education in the United States. A. C. Monahan. 15 cts.
- *No. 9. Consular reports on continuation schools in Prussia. 5 cts.
- *No. 11. Monthly record of current educational publications, April, 1913. 5 cts.
- *No. 12. The promotion of peace. Fannie Fern Andrews. 10 cts.
- *No. 13. Standards and tests for measuring the efficiency of schools or systems of schools. 5 cts.
- *No. 14. Agricultural instruction in secondary schools. 10 cts.
- *No. 15. Monthly record of current educational publications, May, 1913. 5 cts.
- *No. 16. Bibliography of medical inspection and health supervision. 15 cts.
- *No. 17. A trade school for girls. 10 cts.
- *No. 18. The fifteenth international congress on hygiene and demography. Fletcher B. Dresslar. 10 cts.
- *No. 19. German industrial education and its lessons for the United States. Holmes Beckwith. 15 cts.
- *No. 20. Illiteracy in the United States. 10 cts.
- *No. 21. Monthly record of current educational publications, June, 1913. 5 cts.
- *No. 22. Bibliography of industrial, vocational, and trade education. 10 cts.
- *No. 23. The Georgia club at the State Normal School, Athens, Ga., for the study of rural sociology. R. C. Branson. 10 cts.
- *No. 24. A comparison of public education in Germany and in the United States. Georg Karschenski. 5 cts.
- *No. 25. Industrial education in Columbus, Ga. Roland B. Daniel. 5 cts.
- No. 26. Good roads arbor day. Susan B. Sipe.
- *No. 28. Expressions on education by American statesmen and publicists. 5 cts.
- *No. 29. Accredited secondary schools in the United States. Kendrick C. Babcock. 10 cts.
- *No. 30. Education in the South. W. Carson Ryan, jr. 10 cts.
- *No. 31. Special features in city school systems. 10 cts.
- *No. 34. Pension systems in Great Britain. Raymond W. Sles. 10 cts.
- *No. 35. A list of books suited to a high-school library. 15 cts.
- *No. 36. Report on the work of the Bureau of Education for the natives of Alaska, 1911-12. 10 cts.
- *No. 37. Monthly record of current educational publications, October, 1913. 5 cts.
- *No. 38. Economy of time in education. 10 cts.
- *No. 40. The reorganized school playground. Henry S. Curtis. 10 cts.
- *No. 41. The reorganization of secondary education. 10 cts.
- *No. 42. An experimental rural school at Winthrop College. H. S. Browne. 10 cts.
- *No. 43. Agriculture and rural-life day; material for its observance. Eugene C. Brooks. 10 cts.
- *No. 44. Organized health work in schools. E. B. Hoag. 10 cts.
- *No. 45. Monthly record of current educational publications, November, 1913. 5 cts.
- *No. 46. Educational directory, 1913. 15 cts.
- *No. 47. Teaching material in Government publications. F. K. Noyes. 10 cts.
- *No. 48. School hygiene. W. Carson Ryan, jr. 15 cts.
- *No. 49. The Farragut School, a Tennessee country high school. A. C. Monahan and Adams Phillips. 10 cts.

¹ For issues prior to 1916, see list of Available Publications of the United States Bureau of Education, October, 1916," which may be had on application. Numbers omitted are out of print.

- *No. 50. The Fitchburg plan of cooperative industrial education. M. R. McCann. 10 cts.
- *No. 51. Education of the immigrant. 10 cts.
- *No. 52. Sanitary schoolhouses. Legal requirements in Indiana and Ohio. 5 cts.
- *No. 53. Monthly record of current educational publications, December, 1913. 5 cts.
- No. 54. Consular reports on industrial education in Germany.
- *No. 55. Legislation and judicial decisions relating to education, Oct. 1, 1909, to Oct. 1, 1912. James C. Boykin and William R. Hood. 35 cts.
- *No. 58. Educational system of rural Denmark. Harold W. Foght. 15 cts.
- *No. 59. Bibliography of education for 1910-11.
- No. 60. Statistics of State universities and other institutions of higher education partially supported by the State, 1912-13.

1914.

- *No. 2. Compulsory school attendance. 15 cts.
- *No. 3. Monthly record of current educational publications, February, 1914. 5 cts.
- *No. 4. The school and the start in life. Meyer Bloomfield. 15 cts.
- *No. 5. The folk high schools of Denmark. L. L. Friend. 5 cts.
- *No. 6. Kindergartens in the United States. 20 cts.
- *No. 7. Monthly record of current educational publications, March, 1914. 5 cts.
- *No. 8. The Massachusetts home-project plan of vocational agricultural education. R. W. Stimson. 15 cts.
- No. 9. Monthly record of current educational publications, April, 1914.
- *No. 10. Physical growth and school progress. B. T. Baldwin. 25 cts.
- *No. 11. Monthly record of current educational publications, May, 1914. 5 cts.
- No. 12. Rural schoolhouses and grounds. F. B. Dresslar.
- *No. 13. Present status of drawing and art in the elementary and secondary schools of the United States. Royal B. Farnum. 85 cts.
- *No. 14. Vocational guidance. 10 cts.
- *No. 15. Monthly record of current educational publications. Index. 5 cts.
- *No. 16. The tangible rewards of teaching. James C. Boykin and Roberta King. 50 cts.
- No. 17. Sanitary survey of the schools of Orange County, Va. Roy K. Flannagan.
- *No. 18. The public-school system of Gary, Ind. William P. Burris. 15 cts.
- No. 19. University extension in the United States. Louis E. Reber.
- No. 20. The rural school and hookworm disease. J. A. Ferrell.
- *No. 21. Monthly record of current educational publications, September, 1914. 10 cts.
- No. 22. The Danish folk high schools. H. W. Foght.
- No. 23. Some trade schools in Europe. Frank L. Glynn.
- *No. 24. Danish elementary rural schools. H. W. Foght. 10 cts.
- *No. 25. Important features in rural school improvement. W. T. Hodges. 10 cts.
- *No. 26. Monthly record of current educational publications, October, 1914. 5 cts.
- *No. 27. Agricultural teaching. 15 cts.
- *No. 28. The Montessori method and the kindergarten. Elizabeth Harrison. 5 cts.
- No. 29. The kindergarten in benevolent institutions.
- No. 30. Consolidation of rural schools and transportation of pupils at public expense. A. C. Monahan.
- *No. 31. Report on the work of the Bureau of Education for the natives of Alaska. 25 cts.
- No. 32. Bibliography of the relation of secondary schools to higher education. R. L. Walkley.
- *No. 33. Music in the public schools. Will Earhart. 10 cts.
- *No. 34. Library instruction in universities, colleges, and normal schools. Henry R. Evans. 5 cts.
- *No. 35. The training of teachers in England, Scotland, and Germany. Charles H. Judd. 10 cts.
- *No. 36. Education for the home—Part I. General statement. B. R. Andrews. 10 cts.
- No. 37. Education for the home—Part II. State legislation, schools, agencies. B. R. Andrews.
- *No. 38. Education for the home—Part III. Colleges and universities. B. R. Andrews. 25 cts.
- *No. 39. Education for the home—Part IV. Bibliography, list of schools. B. R. Andrews. 10 cts.
- No. 40. Care of the health of boys in Girard College, Philadelphia, Pa.
- *No. 41. Monthly record of current educational publications, November, 1914. 5 cts.
- *No. 42. Monthly record of current educational publications, December, 1914. 5 cts.
- *No. 43. Educational directory, 1914-15. 20 cts.
- *No. 44. County-unit organization for the administration of rural schools. A. C. Monahan. 10 cts.
- *No. 45. Curricula in mathematics. J. C. Brown. 10 cts.
- *No. 46. School savings banks. Mrs. Sara L. Oberholtzer. 5 cts.
- No. 47. City training schools for teachers. Frank A. Manny.
- No. 48. The educational museum of the St. Louis public schools. C. G. Rathman.
- *No. 49. Efficiency and preparation of rural-school teachers. H. W. Foght. 15 cts.
- No. 50. Statistics of State universities and State colleges.

1915.

- *No. 1. Cooking in the vocational school. Iris P. O'Leary. 5 cts.
- *No. 2. Monthly record of current educational publications, January, 1915. 5 cts.
- *No. 3. Monthly record of current educational publications, February, 1915. 5 cts.

* See note at top of p. I.

- *No. 4. The health of school children. W. H. Heck. 15 cts.
- No. 5. Organization of State departments of education. A. C. Monahan.
- *No. 6. A study of the colleges and high schools in the North Central Association. 15 cts.
- No. 7. Accredited secondary schools in the United States. Samuel P. Capen.
- No. 8. Present status of the honor system in colleges and universities. Bird T. Baldwin.
- *No. 9. Monthly record of current educational publications, March, 1915. 5 cts.
- *No. 10. Monthly record of current educational publications, April, 1915. 5 cts.
- No. 11. A statistical study of the public-school systems of the southern Appalachian Mountains. Norman Frost.
- No. 12. History of public-school education in Alabama. Stephen B. Weeks.
- *No. 13. The schoolhouse as the polling place. E. J. Ward. 5 cts.
- *No. 14. Monthly record of current educational publications, May, 1915. 5 cts.
- No. 15. Monthly record of current educational publications. Index, Feb., 1914-Jan., 1915.
- *No. 16. Monthly record of current educational publications, June, 1915. 5 cts.
- No. 17. Civic education in elementary schools as illustrated in Indianapolis. A. W. Dunn.
- No. 18. Legal education in Great Britain. H. S. Richards.
- *No. 19. Statistics of manual-training, agricultural, and industrial schools. 10 cts.
- *No. 20. The rural school system of Minnesota. H. W. Foght. 20 cts.
- *No. 21. Schoolhouse sanitation. William A. Cook. 10 cts.
- *No. 22. State versus local control of elementary education. T. L. MacDowell. 10 cts.
- *No. 23. The teaching of community civics. 10 cts.
- *No. 24. Adjustment between kindergarten and first grade. Luella A. Palmer. 5 cts.
- No. 25. Public, society, and school libraries.
- No. 26. Secondary schools in the States of Central America, South America, and the West Indies. Anne T. Smith.
- No. 27. Opportunities for foreign students at colleges and universities in the United States. Samuel P. Capen.
- No. 28. The extension of public education. Clarence A. Perry.
- No. 29. The truant problem and the parental school. James S. Hiatt.
- No. 30. Bibliography of education for 1911-12.
- *No. 31. A comparative study of the salaries of teachers and school officers. 15 cts.
- No. 32. The school system of Ontario. H. W. Foght.
- No. 33. Problems of vocational education in Germany. George E. Myers.
- *No. 34. Monthly record of current educational publications, September, 1915. 5 cts.
- *No. 35. Mathematics in the lower and middle commercial and industrial schools. E. H. Taylor. 15 cts.
- No. 36. Free textbooks and State uniformity. A. C. Monahan.
- No. 37. Some foreign educational surveys. James Mahoney.
- No. 38. The university and the municipality.
- No. 39. The training of elementary school-teachers in mathematics. I. L. Kandel.
- No. 40. Monthly record of current educational publications, October, 1915.
- *No. 41. Significant school extension records. Clarence A. Perry. 5 cts.
- *No. 42. Advancement of the teacher with the class. James Mahoney. 10 cts.
- No. 43. Educational directory, 1915-16.
- No. 44. School administration in the smaller cities. W. S. Deffenbaugh.
- No. 45. The Danish people's high school. Martin Hegland.
- No. 46. Monthly record of current educational publications, November, 1915.
- *No. 47. Digest of State laws relating to public education. Hood, Weeks, and Ford. 60 cts.
- No. 48. Report on the work of the Bureau of Education for the natives of Alaska, 1913-14.
- No. 49. Monthly record of current educational publications, December, 1915.
- No. 50. Health of school children. W. H. Heck.

1916.

- No. 1. Education exhibits at the Panama-Pacific International Exposition. W. Carson Ryan, Jr.
- No. 2. Agricultural and rural education at the Panama-Pacific International Exposition. H. W. Foght.
- No. 3. Placement of children in the elementary grades. K. J. Hoke.
- No. 4. Monthly record of current educational publications, January, 1916.
- No. 5. Kindergarten training schools.
- No. 6. Statistics of State universities and State colleges.
- No. 7. Monthly record of current educational publications, February, 1916.
- No. 8. Reorganization of the public school system. F. F. Bunker.
- *No. 9. Monthly record of current educational publications, March, 1916. 5 cts.
- No. 10. Needed changes in secondary education. Charles W. Eliot and Ernesto Nelson.
- No. 11. Monthly record of current educational publications, April, 1916.

* See note at top of p. I.

- No. 12. Problems involved in standardizing State normal schools. C. H. Judd and S. C. Parker.
- *No. 13. Monthly record of current educational publications, May, 1914.
- No. 14. State pension systems for public school teachers. W. C. Cason Ryan, Jr. and Robert King.
- *No. 15. Monthly record of current educational publications—Index, February, 1914—January, 1915.
- *No. 16. Reorganizing a county system of rural schools. J. Harold Williams.
- No. 17. The Wisconsin county training schools for teachers in rural schools. W. E. Loomis.
- No. 18. Public facilities for educating the alien. F. E. Harrington.
- No. 19. State higher educational institutions of Iowa.
- No. 20. Accredited secondary schools in the United States. Samuel P. Capen.
- No. 21. Vocational secondary education.
- No. 22. Monthly record of current educational publications, September, 1916.
- No. 25. Commercial education.
- No. 30. University training for public service.

* See note at top of p. 1.

- No. 31. Monthly record of current educational publications, September, 1916.
- No. 32. Monthly record of current educational publications, September, 1916.
- No. 33. Monthly record of current educational publications, September, 1916.
- No. 34. Monthly record of current educational publications, September, 1916.
- No. 35. Monthly record of current educational publications, September, 1916.
- No. 36. Monthly record of current educational publications, September, 1916.
- No. 37. Monthly record of current educational publications, September, 1916.
- No. 38. Monthly record of current educational publications, September, 1916.
- No. 39. Monthly record of current educational publications, September, 1916.
- No. 40. Monthly record of current educational publications, September, 1916.
- No. 41. Monthly record of current educational publications, September, 1916.
- No. 42. Monthly record of current educational publications, September, 1916.
- No. 43. Monthly record of current educational publications, September, 1916.
- No. 44. Monthly record of current educational publications, September, 1916.
- No. 45. Monthly record of current educational publications, September, 1916.
- No. 46. Monthly record of current educational publications, September, 1916.
- No. 47. Monthly record of current educational publications, September, 1916.
- No. 48. Monthly record of current educational publications, September, 1916.
- No. 49. Monthly record of current educational publications, September, 1916.
- No. 50. Monthly record of current educational publications, September, 1916.
- No. 51. Monthly record of current educational publications, September, 1916.
- No. 52. Monthly record of current educational publications, September, 1916.
- No. 53. Monthly record of current educational publications, September, 1916.
- No. 54. Monthly record of current educational publications, September, 1916.
- No. 55. Monthly record of current educational publications, September, 1916.
- No. 56. Monthly record of current educational publications, September, 1916.
- No. 57. Monthly record of current educational publications, September, 1916.
- No. 58. Monthly record of current educational publications, September, 1916.
- No. 59. Monthly record of current educational publications, September, 1916.
- No. 60. Monthly record of current educational publications, September, 1916.
- No. 61. Monthly record of current educational publications, September, 1916.
- No. 62. Monthly record of current educational publications, September, 1916.
- No. 63. Monthly record of current educational publications, September, 1916.
- No. 64. Monthly record of current educational publications, September, 1916.
- No. 65. Monthly record of current educational publications, September, 1916.
- No. 66. Monthly record of current educational publications, September, 1916.
- No. 67. Monthly record of current educational publications, September, 1916.
- No. 68. Monthly record of current educational publications, September, 1916.
- No. 69. Monthly record of current educational publications, September, 1916.
- No. 70. Monthly record of current educational publications, September, 1916.
- No. 71. Monthly record of current educational publications, September, 1916.
- No. 72. Monthly record of current educational publications, September, 1916.
- No. 73. Monthly record of current educational publications, September, 1916.
- No. 74. Monthly record of current educational publications, September, 1916.
- No. 75. Monthly record of current educational publications, September, 1916.
- No. 76. Monthly record of current educational publications, September, 1916.
- No. 77. Monthly record of current educational publications, September, 1916.
- No. 78. Monthly record of current educational publications, September, 1916.
- No. 79. Monthly record of current educational publications, September, 1916.
- No. 80. Monthly record of current educational publications, September, 1916.
- No. 81. Monthly record of current educational publications, September, 1916.
- No. 82. Monthly record of current educational publications, September, 1916.
- No. 83. Monthly record of current educational publications, September, 1916.
- No. 84. Monthly record of current educational publications, September, 1916.
- No. 85. Monthly record of current educational publications, September, 1916.
- No. 86. Monthly record of current educational publications, September, 1916.
- No. 87. Monthly record of current educational publications, September, 1916.
- No. 88. Monthly record of current educational publications, September, 1916.
- No. 89. Monthly record of current educational publications, September, 1916.
- No. 90. Monthly record of current educational publications, September, 1916.
- No. 91. Monthly record of current educational publications, September, 1916.
- No. 92. Monthly record of current educational publications, September, 1916.
- No. 93. Monthly record of current educational publications, September, 1916.
- No. 94. Monthly record of current educational publications, September, 1916.
- No. 95. Monthly record of current educational publications, September, 1916.
- No. 96. Monthly record of current educational publications, September, 1916.
- No. 97. Monthly record of current educational publications, September, 1916.
- No. 98. Monthly record of current educational publications, September, 1916.
- No. 99. Monthly record of current educational publications, September, 1916.
- No. 100. Monthly record of current educational publications, September, 1916.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 37

THE COOPERATIVE SYSTEM OF EDUCATION

AN ACCOUNT OF COOPERATIVE EDUCATION
AS DEVELOPED IN THE COLLEGE OF ENGINEERING
UNIVERSITY OF CINCINNATI

By CLYDE WILLIAM PARK
ASSOCIATE PROFESSOR OF ENGLISH
UNIVERSITY OF CINCINNATI



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
20 CENTS PER COPY

CONTENTS.

	Page.
Letter of transmittal.....	5
I. The cooperative idea.....	7
II. The experimental period.....	9
First class of cooperative students.....	9
Details of the course.....	11
Attitude of the cooperative manufacturers.....	12
Growth of the cooperative plan.....	12
Lessons of the experimental period.....	13
III. The reorganized system.....	15
Adaptability to various kinds of business.....	15
Business organization.....	15
Shop schedule.....	17
Shop visits.....	17
Coordination of school and shopwork.....	18
Revision of the course.....	20
Selection of men.....	27
Necessity for changes in the cooperative course.....	31
IV. Other applications of the cooperative plan.....	31
Definition of cooperative education.....	31
Cooperation in high schools.....	32
Possible extension of cooperative education.....	33
Requisites for a successful cooperative system.....	36
Appendix A:	
Typical instruction sheets and outlines.....	37
Inspection-trip reports.....	43
Appendix B: Bibliography of the cooperative system.....	47

ILLUSTRATIONS.

	Page.
Plate 1. The University of Cincinnati.....	Frontispiece.
2. Engineering building, University of Cincinnati.....	8
3. A, Cooperative student in a commercial foundry; B, Armature assembly.....	8
4. Main laboratory, engineering college, University of Cincinnati.....	16
5. A, Track repair work, Pennsylvania Railroad; B, Bridge construction, Pennsylvania Railroad.....	16
6. A, Foundry work, weighing up the charge; B, Steel construction work.....	16
7. A, Repair of car-lighting equipment, Pennsylvania Railroad; B, Car repair work, Pennsylvania Railroad.....	16
8. A, Telephone exchange, "Trouble work"; B, Telephone exchange, repair work.....	24
9. A, Cooperative student as inspector of street repair work; B, Cooperative student as inspector of building construction.....	24
10. A, Reinforcement for concrete viaduct, showing method of pouring concrete; B, Steel form for piers on concrete viaduct.....	24
11. A, Car-barn repair work, motor repair; B, Generation repair work...	24
12. A, Pile driving, "Big Four" Railroad; B, Layout of plant for construction of Government dam, Ohio River.....	32
13. Bridge construction, "Big Four" Railroad.....	32
14. A, Government work, driving piles for Dam 33, Ohio River; B, Construction of concrete lock for Dam 35, Ohio River.....	32
15. Car-barn repair work, truck repair.....	32

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,

Washington, June 21, 1916.

SIR: The cooperative system of education in the Department of Engineering of the University of Cincinnati, begun 10 years ago, is, I believe, one of the most interesting and instructive experiments in education within recent years. The importance of the experiment is due to the fact that it is not only practical, but is also based on fundamentally correct principles of education, too often forgotten in school and college work. This experiment has been the subject of many newspaper and magazine articles and public addresses, but I believe no account of it has appeared so comprehensive as that given in the manuscript prepared by Clyde William Park, of the University of Cincinnati. I recommend, therefore, that this manuscript be published as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

THE COOPERATIVE SYSTEM OF EDUCATION.

I. THE COOPERATIVE IDEA.

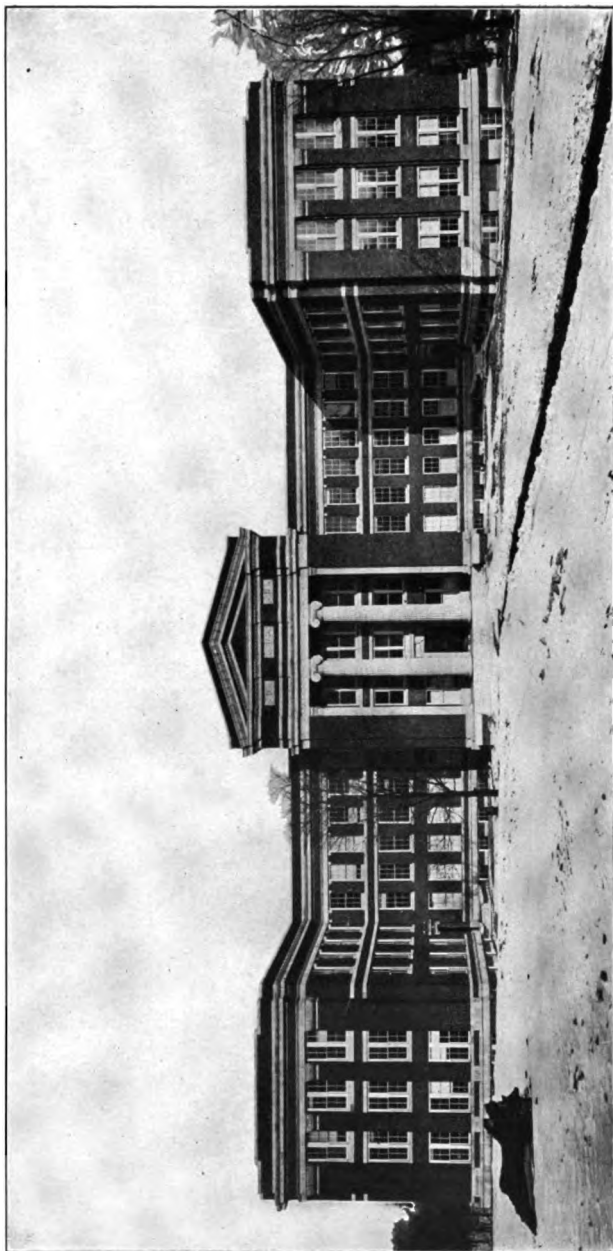
The cooperative course of the University of Cincinnati was not the product of an academic laboratory of pedagogical research; its origin was rather in an investigation of the actual working conditions of commercial engineering practice. At the time when the course was conceived, practical men were especially severe in their criticism of the graduates of engineering colleges. The old apprentice system had broken down under the strain of a complex industrial organization, and it seemed that the engineering colleges were making but little effective effort to supply the link between theory and practice. Many teachers of engineering felt that they had done their whole duty when they had taught a traditional body of theory and had seen to it that the student retained at least 70 per cent of his book knowledge until after the final examinations. A few instructors conceded the desirability of hitching theory and practice side by side, but did not believe that such an arrangement was feasible.

The plan usually considered, and frequently followed, for uniting practice with theoretical instruction was the installation of school shops. The objections to this plan, however, were so numerous as to discourage its general adoption. In the first place, if school shops were to be fully illustrative of actual practice, they would have to include miniature reproductions of electrical plants, foundries, structural iron works, machine shops, railroads, construction companies, chemical industries, and all the other vast and complicated machinery of the industrial world. To duplicate all these plants would, of course, be out of the question; and merely to represent a few typical processes would involve such tremendous expense that only a few institutions could afford the luxury. Moreover, even in the most heavily endowed colleges there was danger that the pay—and hence the quality—of the teaching force would suffer, because of the increased outlay needed for equipment. A further objection to school shops lay in the fact that they must inevitably fall behind the times in a few years. To remodel the shops and revise the shop courses frequently enough to keep pace with the swift progress of engineering development would be clearly impracticable. Neither

did it appear feasible to put the school shops on a commercial basis and have the professors and students compete with business men engaged in actual production. From every angle the school shop appeared impracticable. Yet it was clear that a well-planned course in the practice of engineering would not only prepare the student better for his future work, but would also enable him to retain and understand a much larger proportion of his theory.

A solution of this vexing problem came to Prof. Herman Schneider in a curious way. One evening, as he was walking across the campus of an eastern university where he was teaching, he heard the answer in the blast of a Bessemer furnace at a neighboring steel plant. Instantly the idea appealed to him as perfectly simple and obvious. Here was something better than any conceivable school shop—a million-dollar laboratory, with unlimited possibilities for illustrating the applications of technical theory. In this plant many graduates of this same college would find employment, as others had done before them. Why should they not learn as students to translate their book knowledge into terms of industrial processes?

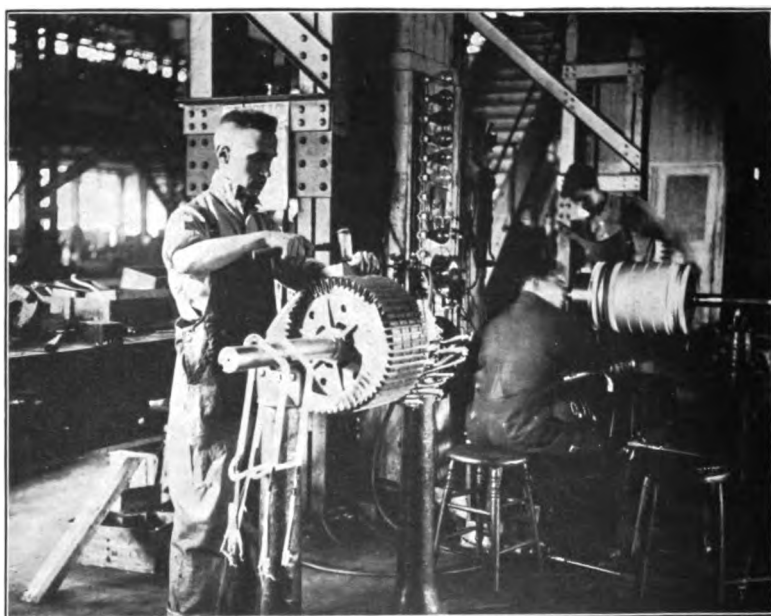
The idea was not enthusiastically received by members of the college faculty, to whom the plan was suggested. In so far as they considered the proposition, they were disposed to look upon cooperation between college and industry as impracticable, if not undesirable. Despite their skepticism, however, Prof. Schneider found his faith growing stronger as he considered more fully the possibilities of the plan. All about the college were industrial plants, to which graduates went for a two-year apprentice course upon the completion of their four years of school work. Why not combine the apprentice course and the school work into a six-year course? Then, instead of paying the school for shopwork, the students would be earning money at the same time that they were getting experience. This would enable many worthy young men to attend school who otherwise would be excluded. There would be a selection of men by tests in both theory and practice. Misfits would thus be avoided, and the best men could be developed for the work to which they were naturally adapted. The school would become a pure teaching college, since all practical experience would be obtained on commercial engineering work. A plan could be devised to coordinate theory and practice. The school could have one group of men while the shop had the other, and thus many more students could be accommodated with the same amount of equipment. The descriptive courses heretofore given by the school could be eliminated and the school time devoted entirely to theory. Young men could start at the bottom of practical work and by a selective process arrive upon graduation at positions of responsibility in the field of engineering. The school would perform with increased efficiency the functions for which it was intended, and the shop would



ENGINEERING BUILDING, UNIVERSITY OF CINCINNATI.



A. COOPERATIVE STUDENT IN A COMMERCIAL FOUNDRY.



B. ARMATURE ASSEMBLY.

return to its proper but neglected function—the training of men by means of a thorough apprentice system. Even a stronger reason was found in the influence which the system would undoubtedly have upon the student's character. For developing industry, loyalty, and self-reliance, surely no plan could be devised that would be more effective. The arguments for cooperation seemed unanswerable, but the university men were unwilling to give the plan a trial.

In striking contrast to the skepticism and indifference of the college teachers was the attitude of a number of practicing engineers, who were next consulted. Almost without exception they received the idea hospitably and expressed their belief in its feasibility. They were also virtually unanimous in saying that their own theoretical training had meant little to them upon graduation, and that to review their theory when they needed it in practice had been a painful and discouraging process. Several engineers, including the chief engineer and the other officials of a large bridge corporation, volunteered their hearty indorsement of the cooperative plan, both as an educational and as a commercial proposition.

One or two things stood out prominently in these conferences with college teachers and with practical men. It was evident that the men who trained engineers and the men who used engineers were quite as far apart as they could get, and that it would not be easy to bring about an understanding between them. It was also clear that the most difficult task would be to induce the college men to undertake the educational experiment of cooperation.

II. THE EXPERIMENTAL PERIOD.

FIRST CLASS OF COOPERATIVE STUDENTS.

It was several years before Prof. Schneider found an opportunity to test the cooperative plan in actual practice. In the meantime, he had been called (in 1903) to the chair of civil engineering at the University of Cincinnati. During the first school year (1903-4), the retirement of the president precluded the submission of plans for the new course. The plan was presented to President Dabney soon after his appointment (in 1904), but because of the pressure of regular business he was unable for some time to consider any changes. In the fall of 1905, President Dabney approved the plan and presented it to the board of directors. After considerable discussion, the board authorized the introduction of the cooperative course on a small scale, to begin with the school year 1906-7.

While the educational aspect of the cooperative plan was under consideration by the university authorities, its practical application to local industries was taken up with numerous manufacturers, super-

intendents, foremen, and engineers in Cincinnati. Most of these men showed interest and faith in the scheme as a general proposition; but when it came to adopting it as an actual business policy, some were chary of so radical an innovation. Typical of their objections to accepting cooperative apprentices were the statements that two men could not work alternate weeks at one machine, and that a crowd of "rah-rah" boys would disturb the shop organization. The latter objection coincided remarkably with the fear which had been expressed by some of the university instructors, that a group of "boiler makers" would destroy the scholastic atmosphere of an educational institution. By the end of a year of persistent interviewing, 12 concerns had agreed to try the cooperative system for 9 months—the college year. These firms offered employment to students in electrical and mechanical engineering courses.

The next problem was to find students who were willing to take the course. The matriculates who came to enter the regular four-year course could not be induced to try the new plan. One of the requirements adopted at the beginning was that a student who wished to enter the cooperative course in September must either spend the summer working in the shops or bring a recommendation from a firm with which he had had an equivalent amount of practical work. This requirement discouraged many prospective members of the first group of cooperative students, as it has in the case of all subsequent classes. In fact, the 28 young men who were finally enrolled chose the cooperative course solely for financial reasons. These students, however, did not last long under the strain of the preliminary shop-work. Ten hours of manual labor in hot weather and on equal terms with ordinary apprentices is a pretty severe test of a young man's stamina. On the first of September, when Dean Schneider returned from a month's vacation, he found that of the 28 men whom he had put to work in July all but 6 or 8 had quit. He then hurriedly recruited a class of young men who could not present the full 14 academic units required for admission, but who had had some practical experience and who gave evidence of fitness for engineering work. One of these students, now efficiency engineer for the Bell Telephone Co., in a Middle-West State, was admitted against the advice of his father and over the protests of three high-school principals, who had dismissed him as incorrigible. Notwithstanding their rather poor scholastic records, the members of this first class were on the whole a fairly promising group. At least, they knew what their work was to be and they seemed to catch the spirit of the new course.

The peculiar requirements of the cooperative course developed a new type of student. The "co-op.," as he was called, was alert, rugged, and independent. He was generally more serious than the "regular" student, but on occasion he displayed a sense of humor

and a buoyancy which showed that, though he might be sobered by his practical work, he was not at all depressed by it. The difference lay rather in the fact that he had known the steadying influence of responsibility. Not only his personal advancement, but also the outcome of an important educational experiment, depended upon his success, and the realization of this fact seemed to give him a new sense of loyalty to his college and a determination not to disappoint those who had trusted him. It was inevitable, of course, that the "co-op." of the early days should be self-conscious. He was the center of interest in a great educational clinic, and the knowledge that he was constantly being analyzed, photographed, and written up gave him a feeling of aloofness from the rest of the student body. This feeling, doubtless, was largely responsible for his "class consciousness," for there never was a more clannish group than the members of the first cooperative class.

For a time the attitude of the other students was such as to enforce this exclusiveness. It is a pleasure, however, to record that the old animosity between the two groups of students has disappeared. The cooperative students and the others have found that they have a great many things in common and no essential differences. The very fact that their interests and experiences are in some respects unlike has made their association mutually beneficial. Community of interest, especially in athletic and social activities, has developed a wholesome university spirit. Evidence of the present solidarity is found in the prominent part taken by cooperative students in every kind of student activity. A "co-op." was president of the senior class in 1915, the captains of both football and basketball teams are "co-ops.," and in all the musical, social, and other organizations there is a large proportion of cooperative students. In view of recent developments, it would be hard for either group to understand that the "ostracism of the boiler makers" was once seriously considered.

DETAILS OF THE COURSE.

At the beginning the cooperative course extended over a period of six years, including alternate weeks at the university and in the shop for each school year, and a three-months period of full-time shopwork (excepting two weeks' vacation) during the summer. Each man had an alternate; so that the shopwork was continued by students of one section while those of the other section were in school. Under this arrangement, the theoretical instruction given in the regular four-year course was combined with the practical experience of a newly devised shop-apprentice course. Theory and practice were carefully graded and coordinated and the student's work was so planned as to familiarize him, first with the simpler, and later with the more complex problems of the plant in which he was employed.

For example, in the course in electrical engineering, the first year's work was in the foundry; the next year and a half in the machine shop; the next two years in the commutator, controller, winding, erecting, and testing departments; and the remaining time in the drafting rooms. On the contract, which was signed in triplicate by the student, the firm, and the university, was a blank space to be filled in with the amount and character of the apprentice work. The details of shop and business experience were left to the dean and the head of a given department on the one hand and the superintendent of the factory on the other.

ATTITUDE OF THE COOPERATING MANUFACTURERS.

The attitude of the cooperating manufacturers, and their ideas of what was to be gained from the cooperative system, may best be stated by quoting from a paper presented by Mr. Charles Gingrich, M. E., of the Cincinnati Milling Machine Co., at the fifteenth annual meeting of the Society for the Promotion of Engineering Education, July 3, 1907. Mr. Gingrich said in part:

The manufacturers of my city have for some time past been face to face with the very serious problem of getting the right kind of men. Our industries are diversified, including machine tool, steam pump, steam engine, and electrical shops. The machine-tool industry predominates. We are rapidly becoming known as the chief machine-tool manufacturing center of the country, but we need more technically trained men in the further development of this industry. It is our good fortune to have the University of Cincinnati centrally located among us. When it proposed to us Prof. Schneider's plan of a cooperative engineering course, the idea appealed at once to the business sense of each individual manufacturer. It promised us an immediate supply of boys of a much higher grade than those who take up the regular apprenticeship. It held out the prospect of our getting within a few years engineering graduates with practical shop experience.

We have all tried to give a shop training to young men from the colleges, but it is never entirely successful. A man who has put in four years of his young manhood getting a university education can not get into the shop atmosphere, even if he does don overalls and work as a regular hand. Such men have passed beyond the age at which boys freely ask questions and learn quickly all those little details which are such an important part of the training and experience of shopmen. They feel that they can not afford to be laughed at. They do not want to expose their ignorance. Therefore they get at best only a superficial knowledge of what is going on inside the shop. I do not mean to imply that our shops are full of secrets, but I do want to emphasize the fact that they contain a vast number of things to be learned; that the only place to learn them is in the shops; and that the best way to do it is to start young and take plenty of time. The chief criticisms of modern technical education result from the fact that we try to take the shop into the school, whereas we should bring the school into the shop. The cooperative plan does bring the school into the shop.

GROWTH OF THE COOPERATIVE PLAN.

After the entire feasibility of the cooperative course had been proved by a year's trial, there remained the question of how rapidly the university could adjust itself to an increased enrollment and to

a greater number and variety of industries. Plenty of students were now willing to enter the course. Over 400 inquiries from prospective students were received during the first year and a large proportion of those who inquired made formal application for admission. The scholarship records of the new applicants admitted were well above the usual requirements for college entrance, and some of the men who enrolled as first-year cooperative students had spent one year or more in academic work at other colleges. Many employers who had thought favorably of the plan, but had hitherto been reluctant to introduce it, no longer hesitated to ask for cooperative apprentices. The number of students who could be admitted, however, was limited by the crowded condition of classrooms and laboratories at the university and also by the policy of the engineering faculty. The acceptance of fewer students was favored, because it would permit a more careful selection of men and would afford a better opportunity to study the pedagogical and administrative details of the course.

By the end of the first four years of operation, which may be called the experimental period, the cooperative plan had been fully vindicated. It had shown itself to be adapted to a variety of courses, including civil, chemical, and metallurgical engineering, and to a range of industries from railroad construction to ink manufacturing. It had survived a panic and the ensuing industrial depression. The old theoretical objections, that two men could not alternate successfully at the same work, and that the "lag" on Monday mornings would be equally prohibitive at school and in the shop were disposed of once and for all by the answer that these difficulties were found not to exist in practice. If anything, "blue Monday" lost some of its proverbial languor, since the students came refreshed to each new task, with their wits sharpened by a change of surroundings and of occupation.

LESSONS OF THE EXPERIMENTAL PERIOD.

The experimental period served to teach a number of lessons, which suggested changes in the plan and operation of the cooperative course. First, the old apprentice course was too rigid to adapt itself readily to the varied and changing conditions of commercial production. It seemed advisable to abandon the ironclad contract, and modify the terms of a student's employment, so as to facilitate his being transferred from one kind of work to another when a change seemed desirable.

Then, in order to keep the proper emphasis on the instructional phase of a student's work, it seemed advisable to handle business questions through a special agency, and thus leave the members of the faculty free to consider primarily the educational value of the various kinds of shop experience.

In the further development of coordination between theory and practice, there was need for careful selection and systematic analysis of the various types of work, in order to obtain for the student the greatest possible amount of educational content from his practical experience.

The six-year course seemed to be longer than necessary. By extending the alternate weeks of school and shop work through the summer terms, the same amount of theory could be given in five years of 11 months as in six 9-month periods. From the standpoint of the shops this would be more convenient, since it would do away with the necessity of providing summer shopwork for twice the usual number of men.

Although the general scheme of weekly alternation had proved successful, it appeared that two weeks would be a more satisfactory unit than one. This was particularly true in the case of railroad work and other work outside the city. It was found that the periodical readjustments were as easy for students who worked on a two-weeks basis as for the others. A comparison of the two units showed that, on the whole, fortnightly alternation was more desirable for both school and shop work.

A revision of the curriculum also seemed advisable, and several changes were considered, including the following: Purely descriptive material, it was decided, should be eliminated, in order to secure time for a deeper study of the fundamentals. Overlapping and closely related courses should be compared in detail to avoid duplications and omissions. The relation between prerequisite and advanced courses should be emphasized, and deficiencies in a student's preparation should be reported to his instructor in the prerequisite course. Provision should be made for the recall of grades in case the student failed to retain a working knowledge of a preparatory subject. The theoretical work of the first three years in all departments should agree as nearly as possible, and specialization should be left to the latter part of the course.

Since the combination of school and shop work tends toward the rapid elimination of the physically, mentally, and temperamentally unfit, the cooperative system is in itself selective. In view of the increasing number of applications, however, it seemed worth while to investigate the practicability of a preliminary test that would eliminate in advance as many as possible of the misfits. Accordingly, a study was begun to determine a basis of selection that would discover a man's fitness to enter the course and, also, if possible, his adaptability for a particular class of work.

III. THE REORGANIZED SYSTEM.

Notwithstanding that the changes in the cooperative course were gradual and evolutionary, it is possible to cite a fairly definite date at which the experimental stage ends and the new period begins. Before the end of the school year 1910-11 the principal changes had been inaugurated.

ADAPTABILITY TO VARIOUS KINDS OF BUSINESS.

The keynote of the reorganized system was adaptability. In the industries represented by the various cooperating firms there was variety, change, life. It would not have been possible for these firms to adjust their operations in accordance with a rigid educational system imposed upon them from without; nor would it have been desirable, even supposing that the employers had philanthropically offered to surround the cooperative students with exceptionally favorable conditions. To have done this would have been to carry over into the industries the unrealities of the school shops; whereas, under the cooperative system, it was a fundamental requirement that the student's practical work should be done amid conditions of actual production. The school planned the courses, shifted the men, and otherwise continued to be the directing head, and in administrative details it adjusted itself to engineering practice. The reorganization of the course was simply a recognition of the need for a system that should be flexible without being desultory, and definite without being rigid.

BUSINESS ORGANIZATION.

In the administrative department the old form of contract was abolished and the only definite agreement made was upon a minimum rate of 15 cents an hour for all entering students. The way was opened for the immediate transfer of a student who, though unsuccessful in one branch of engineering practice, seemed worthy of a trial in some other department. Despite the fact that the proportion of misfits had been greatly reduced each year, this increase in the freedom with which changes could be made proved to be an important advantage. In order that the progress of a student might be more closely followed by those directly concerned with his school training, the business of making the transfers and planning a student's practical work was turned over to the heads of the civil, mechanical, electrical, and other engineering departments. To facilitate this work and to insure for the students the greatest degree of personal attention, each of the professors and instructors was assigned a special list of shops and a regular schedule for visiting them.

At the same time that the engineering professors were given full responsibility for the adjustment of shop and school work, they were relieved of the business details in the relations between students and employers. The commercial part of the work was placed entirely in the hands of a special field secretary in the dean's office. His

The university cooperates with almost 100 firms, representing the principal phases of construction, manufacture, and transportation.

[illegible]

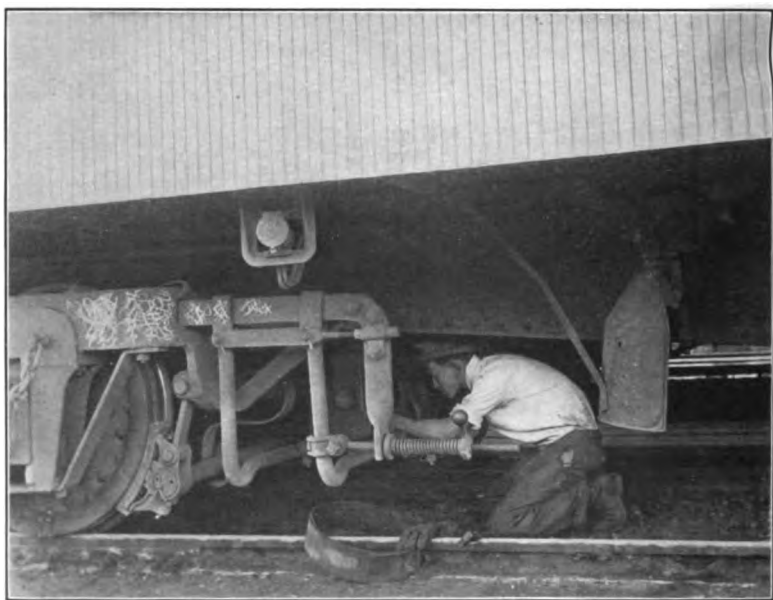
A partial list of industries reached by the cooperative system indicates something of the variety of experience which can be utilized in this way. Among the cooperating firms are four railroads, a traction company, a telephone company, a gas and electric company, rolling mills, structural iron works, consulting engineers, city, county, and Federal engineering departments, excavation and building contractors, and manufacturers of machine tools, automobiles, elevators, engines, bicycles and motorcycles, cash registers, fire engines, printing machinery, paper-making machinery, adding machines, roofing, ink, and soap.



MAIN LABORATORY, ENGINEERING COLLEGE, UNIVERSITY OF CINCINNATI.



A. REPAIR OF CAR-LIGHTING EQUIPMENT, PENNSYLVANIA RAILROAD.



B. CAR REPAIR WORK, PENNSYLVANIA RAILROAD.

SHOP SCHEDULE.

A complete list of cooperating firms, students employed, alternates, and other shop information is kept in the faculty room. In the typical section of a shop schedule given on page 16, the pairs of names under each firm are those of alternating students, who are designated as belonging to Section I and Section II, respectively. The spaces

[illegible]

marked with a single cross line indicate that no alternate is provided, and that none is desired. The space marked with double cross lines indicates that an alternate is wanted. Detachable cards are used, in order that the list may be easily revised and kept up to date.

SHOP VISITS.

The above schedule from the current records is typical of the shop visits made by various instructors in the technical departments. These visits are made at regular intervals on an established schedule.

COORDINATION OF SCHOOL AND SHOPWORK.

Shop records.—With provision thus made for handling the business problems of the course, the work of the department of coordination, instead of dealing, as at first, with commercial problems, was developed from a purely pedagogical standpoint. The department became a clearing house for the practical applications of engineering theory and for the shop records of individual students. These records, kept on cards designed for the purpose, are filled out every two weeks, and a graphical summary of the data from the cards is made each semester. Examples of shop records for the short and the long periods are given below. By reference to the statements of experience, the department of coordination checks the thoroughness of a student's practical training and of his collateral instruction.

At the beginning of each school period the student enters on the semester card his experience for the shop period (two weeks) just closed.

WORK RECORD CARD.

NAME. <i>Binns, H. Stanley</i>		CLASS OF 1915.	SCHOOL YEAR ENDING	AUGUST, 1915.	SEMESTER I.
FIRM. <i>Cincinnati Milling Machine Co.</i>					
WEEK ENDING	HOURS WORKED.	HOURS LOST.	DEPT.	NATURE OF WORK DONE.	
<i>Sept. 19</i>	<i>49½</i>	<i>0</i>	<i>Off.</i>	<i>Estimating milling operations.</i>	
<i>Oct. 10</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>" 17</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Nov. 7</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>" 14</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Dec. 5</i>	<i>40½</i>	<i>9 ex.</i>	<i>Plan.</i>	<i>Time study work—Milling machine.</i>	
<i>" 12</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Jan. 2</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>" 9</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>" 30</i>	<i>49½</i>	<i>0</i>	<i>"</i>	<i>Working up time-study curves.</i>	
TOTAL.	<i>488</i>	<i>9</i>	DEGREE, M. E.	ENTERED SEPT., 1910	WAGES Feb. 1, 1914, RATE .22. RAISED Nov. 14, 1914, RATE .24.

On the sheet marked "Record of Cooperative Work" the records from each man's semester cards are compiled in a statement which, when completed, shows graphically his practical experience for the entire five years. The chief types of work are listed on different sheets, headed M. E., C. E., and so on, for the several departments. As shown in the record below, provision is also made for the statement of a man's previous experience and of his wages throughout the course.

INDEX

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

R
W

—
—

pr
in
fr
cl
an
on
a g
E
be
of
tr

se:
cl

1
2
3
4

**f
w
e
s
s
A
O**

Instruction sheets.—A later undertaking by the department of coordination was an analysis of shop practice and the formulation of a set of instructions for each type of work. Appendix B contains excerpts from typical sets of instructions. Syllabi of this kind have been prepared for the principal types of work done by students, and additional sets of instructions are made out from time to time as they are needed.

Since the educational value of a machine or a piece of work is proportional to its complexity, or the amount of thought that has gone into it, the syllabi naturally vary in length and in disciplinary importance. It would be incorrect, however, to assume that the student may profitably spend upon each type of work only the amount of time required to master a set of instructions and problems dealing with a particular machine. It is often found worth while for him to remain longer, in order to become familiar with the arrangement and operation of the department in which his special work is included. Thus, because he can study the surrounding machinery, a student may be justified in operating a drill press longer than would be necessary for him to learn its simple mechanism. In a foundry his training need not be restricted to molding, core making, and pattern making. From the patterns and castings he will learn much about machine design, and he will naturally receive many ideas concerning foundry management. Timekeeping, inspecting, and other kinds of work which in themselves are comparatively simple may likewise afford such opportunities for observation as to make them very desirable from the standpoint of practical instruction and coordination. In all coordination outlines, emphasis is placed upon the incidental training which accompanies the various types of work.

Special kinds of work arise from time to time which can not be anticipated by any syllabus, but which may have greater instructional value than the regular tasks. For example, during the Ohio floods of 1913 some of the students in the civil engineering department suddenly found themselves face to face with problems and responsibilities far beyond their experience. They "made good," and incidentally learned many important things about railroad construction. At this time a similar opportunity came to the senior class in electrical engineering. The lighting system at Hamilton, Ohio, had been completely disorganized, and much of the equipment had been badly damaged by the flood. The students spent a week making repairs and, of course, working out the solutions for many practical problems in electrical engineering.

Inspection trips.—Apart from the varied forms of shop experience, an opportunity to learn by observation is provided by the inspection trips, which are made by all students during the school periods. These visits to representative engineering industries are carefully

planned and graded with reference to the student's course and his progress. During the first year the trips include only the larger and more general phases of industry, and are made under the direction of the department of coordination. A typical list of plants visited in the first year is as follows:

1. The Cincinnati Water Works (pumping and filtration plants).
2. The Andrews Steel Co. (rolling mills).
3. The Jarecki Chemical Co. (sulphuric acid, commercial fertilizers, and alum).
4. The Hopple Street Viaduct (under construction).
5. The Cincinnati Milling Machine Co. (machine tools).
6. The Bullock Electrical Co. (electrical machinery).

Each trip is preceded by lectures on the type of plant to be visited, its layout, and its special engineering features. Wherever possible the trip is brought into relation with the student's regular class work. For example, the visit to the Jarecki Chemical Co.'s plant is made in connection with the discussion of the manufacture of sulphuric acid in the class in chemistry. A report of from 5 to 10 pages, including a sketch, is required of each student. All reports are written under the joint direction of the department of English and the technical department concerned.¹ The inspection trips made by upper-class men differ mainly in that they deal with more specific phases of industry, and that they are in charge of the several engineering departments.

Production engineering.—In the last two years of the course, special work is given in production engineering. A study is made of such phases of industry as management, routing of work, cost systems, location, organization, and operation of factories, contracts, specifications, and wage systems. In this course, which is given by the department of coordination, the student's experience during the first three years is utilized in giving him standards and methods of management.

REVISION OF THE COURSE.

Length and distribution of time.—While the various changes were under way in the shopwork and in coordination, the courses in theory were undergoing a corresponding reorganization. The change from a six-year to a five-year plan involved a consideration of the time which should be allotted to each subject, and this in turn raised the fundamental question of what the subject was intended to accomplish. In other words, why was it included in preference to other studies not in the curriculum? To satisfy themselves on this point, instructors began to analyze their courses and test the value of the subject matter in a scheme of engineering education. This analysis

¹ See p. 43.

resulted in the elimination of a great deal of superfluous descriptive material and in a new emphasis on the fundamentals.

Changes in the curriculum.—Further criticism of the different courses was carried on by the faculty as a whole. In the weekly meetings an investigation was made of the object of each branch of study and of its relation to other subjects and to the entire engineering course. Reports of committees were followed by general discussion, with the result that every part of the curriculum which had no demonstrable value was omitted, new material was introduced, and the more important parts were strengthened. The ground was staked off anew, and many cases, both of overlapping and of deficiency, were remedied.

In order to check the related portions of prerequisite and advanced courses, the following form was designed for reporting deficiencies:

Name..... <i>J. E. Jones.</i> Date..... <i>1-5-15.</i>	
To Dept. of <i>Math.</i> , from Dept. <i>E. E.</i> Deficiencies: <i>Unable to perform integration to obtain average and effective e. m. f. for a sine wave.</i>	
Remarks: <i>A discussion of average values by means of integrals would be of service to this department.</i>	
Course <i>E. E.</i>	..... Signature of Instructor.

The significance of this report depends naturally upon whether it represents an individual case or that of a number of students. If the former, it provides a reason for invoking the provisional credit rule—that is, to require the student to review the prerequisite subject. If the latter, it indicates to the instructor the need of greater emphasis on the mathematical process in which the deficiency is found to exist. In any case, it fixes the responsibility for the failure of students to have a working knowledge of prerequisite subjects.

The data collected during the analysis of courses were later brought together, and a uniform outline was adopted for the presentation of the object, method, and matter of each course. The outline given below is typical.

UNIVERSITY OF CINCINNATI—COLLEGE OF ENGINEERING. SYLLABUS OF THE COOPERATIVE SYSTEM.¹

Object.	Method.	Matter.	Mechanism.
<p>TO PROVIDE ENGINEERING TRAINING FROM WHICH THE STUDENT SHALL ACQUIRE:</p> <p>1. A foundation in the basic principles of science.</p> <p>2. Ability to use these principles in practice.</p>	<p>1. Instruction in science and mathematics.</p> <p>2. Gradual and natural advancement in practical work which uses these principles.</p> <p>Concurrent training in the theory and practice of engineering.</p> <p>3. Varied exemplifications of theory in the classroom.</p> <p>Organized visits to a variety of engineering industries.</p> <p>Contact with fellow students in different kinds of engineering work.</p> <p>4. Instruction in economics, management, etc. Reports on shop visits; analysis of shop processes.</p> <p>Practical experience in business forms and procedure.</p> <p>5. Personal work with men from laborers up to superintendents or managers.</p> <p>Instruction in the basic elements of work.</p> <p>a. By regulating promotion and pay on practical work.</p>	<p>1. Chemistry, physics, mathematics, economics, biology, practical engineering projects.</p> <p>2. An organized sequence in practical work.</p> <p>An organized sequence in science.</p> <p>3. Experiences of students in different types of work correlated with theory.</p> <p>Visits to waterworks, foundries, soap works, etc.</p> <p>4. Fundamental principles of economics, systems, forms, contracts, patents in engineering work, etc.</p> <p>Reports on organization and operation of waterworks, foundries, soap works, etc.</p> <p>Routing of work in shops, time-keeping, rate-setting, cost-keeping, etc.</p> <p>5. Practical work, from laboring to directing.</p> <p>Fatigue, wage systems, employment methods, sanitation, etc.</p> <p>a. Practical performance; classroom performance.</p>	<p>1. Class and laboratory work; coordination with practical experience.</p> <p>2. Cooperation with commercial concerns doing engineering work.</p> <p>Alternate periods spent by two groups of students at school and at practical work.</p> <p>3. Coordinators and students furnish illustrations.</p> <p>Organized shop visits.</p> <p>4. Coordination of classroom work with students' experience.</p> <p>Practical training organized by coordinators to insure experience in business forms and processes.</p> <p>5. Prearranged course of practical training.</p> <p>a. Constant supervision and criticism of students' work. Consultations by college officials on advancing students on jobs.</p>
<p>3. An understanding of engineering in general, as well as of one special department.</p> <p>4. A working knowledge of business forms and processes.</p> <p>5. A knowledge of men as well as of matter.</p>			
<p>6. Drill and experience in the following essentials:</p> <p>a. Doing one's best naturally and as a matter of course.</p>			

<p>c. Prompt and intelligent obedience to instructions.</p>	<p>By maintaining a satisfactory standard in college work.</p> <p>b. By working under the rules of an industrial organization.</p> <p>By learning the reasons why things are done.</p>	<p>b. Practical work under foremen.</p> <p>Using practical experience in science courses.</p> <p>Work syllabi.</p>	<p>Internal coordination of college departments; conferences on work of students.</p> <p>b. Student is kept at manual labor until he learns to obey orders.</p> <p>Coordination of theory and practice.</p>
<p>c. Ability to command intelligently and with toleration.</p>	<p>c. By gradual rise to positions of responsibility in the cooperating companies.</p> <p>By courses dealing with conditions under which men work.</p>	<p>c. Practical jobs of more and more authority and responsibility. Personal experience in hard work.</p> <p>Fatigue, wage systems, employment methods, sanitation, etc.</p>	<p>c. Success of student on practical and theoretical work checked by coordinators. Round table discussion in shop management courses.</p>
<p>d. Accuracy and system.</p>	<p>d. By practical work which requires mental and manual accuracy, and which proceeds with a sequential orderliness. By insistence in school on accurate work and orderly methods of presentation.</p>	<p>d. Carefully selected jobs. Analyses of shop processes in class.</p> <p>All college courses.</p>	<p>d. Close familiarity with outside work through visits of coordinators. Coordination between departments to maintain standards.</p>
<p>e. Ability to write clearly and concisely, and to present technical matter interestingly before an audience.</p> <p>7. Ability to meet social requirements easily.</p> <p>8. An appreciation of humanity's best achievements.</p>	<p>e. By constantly requiring written work under criticism, and by requiring oral presentation of technical matter.</p>	<p>e. Reports on shopwork. Reports on shop visits. Laboratory reports. Student engineering society papers and discussions. Class practice under criticism.</p>	<p>e. Coordination of English department with other departments in criticizing all written work. Student engineering societies afford practice in oral presentation. Regular class exercises in presenting engineering reports.</p>

¹ The objects listed in this syllabus, with slight differences in phrasing, were first stated by Dean Schneider, in 1922. The methods suggested in the original paper for accomplishing objects 7 and 8 have not been found feasible without certain features of mechanism obtainable only in colleges like those at West Point and Annapolis. However, new methods, matter, and mechanism for number 8 have been devised to meet the situation as it exists at Cincinnati, and these are now in the experimental stage.

In the outline of the courses in chemistry which follows, the objects given in the first column are those agreed upon as common to all the courses, though in different cases the objects may vary in relative importance. For example, No. 4, which is the main object in English courses, is secondary in a course in chemistry. Methods differ more widely than objects, and manifestly subject matter is or should be entirely different in the various courses. In fact, one of the main reasons for making so extensive a survey of the curriculum was to avoid duplication of subject matter.

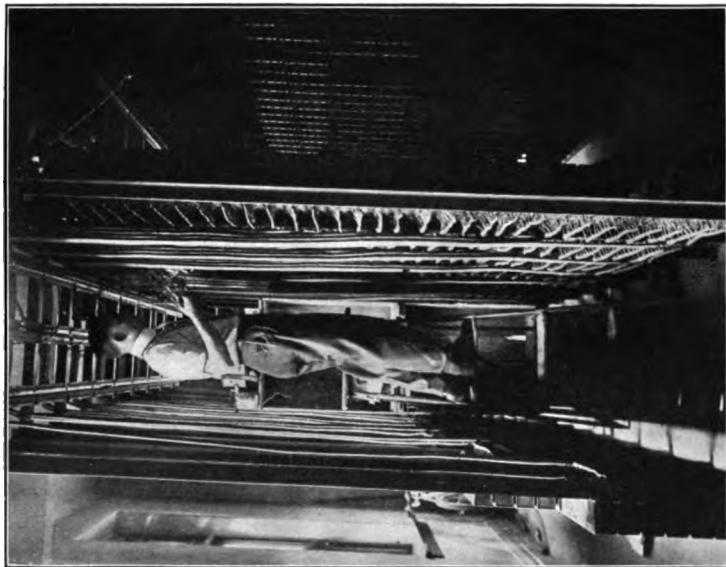
SYLLABUS OF COURSE IN CHEMISTRY.

Object.	Method.	Matter.
TO HAVE THE STUDENT ACQUIRE: 1. The fundamentals of the given subject. 2. A comprehension of the scientific method as exemplified in—(a) accurate observation; (b) classification and correlation; (c) logical reasoning. 3. Mental self-reliance and initiative; <i>i. e.</i> , the ability to analyze a scientific problem and devise means of solution. 4. Habits of neatness in student's work, and clear, concise, accurate expression, both oral and written. 5. The connection of the given subject with the other subjects in the curriculum and with the profession of engineering.	1. Lectures experimentally illustrated, covering fundamental theories and laws, and the properties of the principal metals and nonmetals, especially those of industrial interest; occasional recitations with oral and written quizzes; experimentation in the laboratory to parallel the lecture course. 2. Detailed study of groups of elements (<i>e. g.</i> the halogens, the alkali metals), leading to observation of similarities in properties, and subsequent classification into groups; simple problems permitting formulation of hypotheses and establishment of truth or falsity of these by experiment; enunciation of laws after examination of particular cases. 3. Problem work introduced early into the course and given increasing prominence until the summer term, when it is pursued exclusively; simple problems in synthesis and analysis assigned or suggested by student who proposes the method of attack; does all necessary library reading and carries to completion a process of chemical manufacture—for example, making a pound of baking powder; instructor assumes rôle of critic and interferes as little as possible with course of work. 4. Written work, in order to be accepted, must meet a prescribed standard of excellence; faulty oral expression corrected. 5. Constant correlation of subject of lectures with practical engineering; <i>e. g.</i> , oxidation in connection with generation of power (combustion of coal).	1. Not essentially different from subject matter given in good texts on general chemistry, except that practical applications of chemistry are emphasized; occurrence, properties, and uses of the principal metals and nonmetals; properties useful for identification; fundamental theories and laws. 2. As under 1. 3. Individual problems in synthesis and analysis of commercially valuable products; ores—identification, valuation, and subsequent working up for useful products— <i>e. g.</i> , alum from bauxite, salts of iron, copper, barium, etc., from their ores; products used in laboratory; blue print papers, boiler water, soaps, baking powders, driers, paints, coal, inks, foods, etc. 4. Instruction in the writing of reports and in the arrangement of chemical data; models, specifications, and criticism; given in connection with the department of English. 5. Illustrative material for lectures and problems; refers largely to local industries in which the principles under discussion are practically applied.

Because of the numerous changes in distributing and handling the subjects themselves, the reorganization made a much greater change in the cooperative course than is suggested by a comparison of curricula in the earlier and later periods. Omission of certain details, and a change of emphasis on others, constituted the principal features of



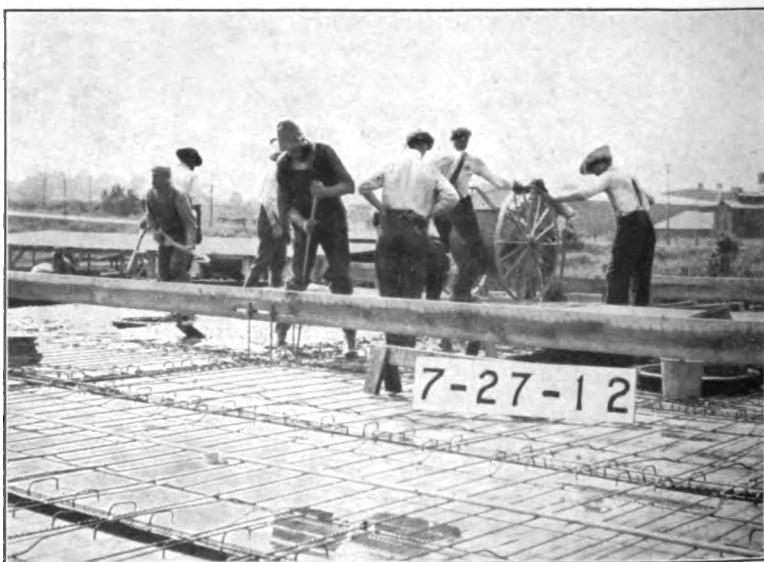
4. TELEPHONE EXCHANGE. "TROUBLE WORK."



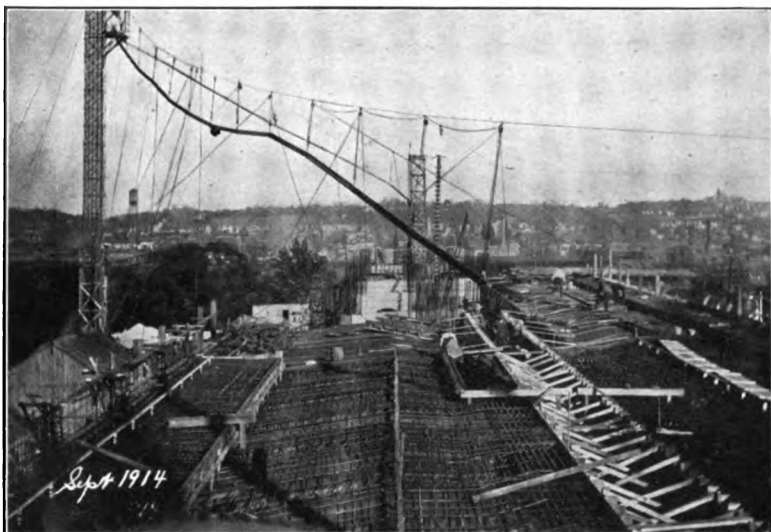
B. TELEPHONE EXCHANGE. REPAIR WORK.



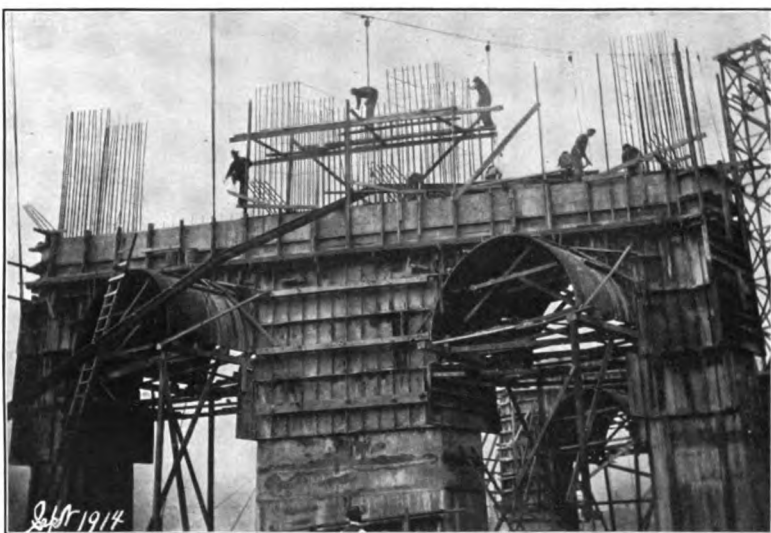
A. COOPERATIVE STUDENT AS INSPECTOR OF STREET REPAIR WORK.



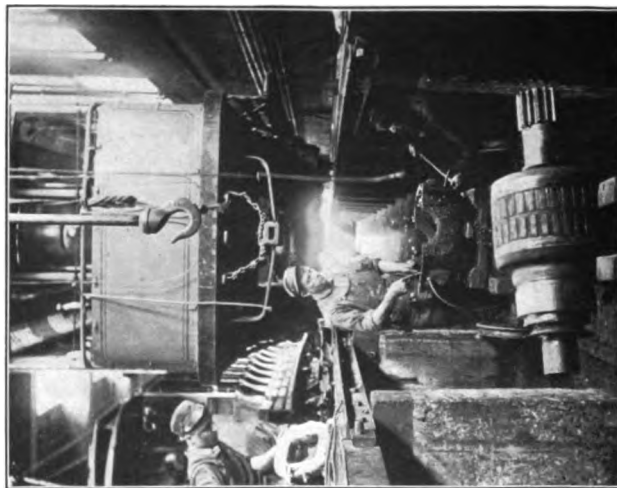
B. COOPERATIVE STUDENT AS INSPECTOR OF BUILDING CONSTRUCTION.



A. REINFORCEMENT FOR CONCRETE VIADUCT, SHOWING METHOD OF POURING CONCRETE.



B. STEEL FRAME FOR PIERS ON CONCRETE VIADUCT.



4. CAR BARN REPAIR WORK. MOTOR REPAIR.



5. GENERATION REPAIR WORK.